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EDUCATION

Alf Johnson Mapp
SEE PAGE 187

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Devoted to the Science, Art, Philosophy, and Literature of Education

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Next month's EDUCATION will feature the subject "Supervision of Instruction," with O. L. Davis, Jr., Associate Director of the Fifth Year Program, School of Education, University of North Carolina, as guest editor. This special section will include many outstanding articles, among which are the following:

Important Areas for Instructional Improvement, O. L. Davis, Jr.

Leadership in Instructional Improvement, Curtis Paul Ramsey

Human Relationships in Supervision, Edith S. Greer

Striving for Better Teaching, Ethel R. Oyan

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Health Education In Elementary Schools

CARL E. WILLGOOSE
Professor, Health Education
Boston University, Boston, Massachusetts

Let us, since life can little more supply
Than just to look about us, and to die,
Expatiate free o'er all this scene of man;
A mighty maze! but not without a plan.
—Alexander Pope

In the words of the philosopher-poet, there is order in the universe. But more than this there is behind it all a plan. In short, whether a project or undertaking is of great or small magnitude, its ultimate success and effect depend upon careful planning.

Leadership in developing a health instruction curriculum has gone in recent years from the subject specialists and university professors to the "grass roots" of the community—to the teachers, supervisors, psychologists, specialists, and parents, working together. The curriculum, in a sense, is part and parcel of the society, the local community, the classroom and the pupils and teachers. It is viewed in the light of total influences.

Moreover, a good amount of long-range planning is necessary in both the broad subject areas and special subject fields. Health topics, for example, need to be seen from the standpoint of their contribution to a broad area as well as from the single subject viewpoint. Planning, therefore, involves many personalities as well as the use of prepared courses of study and available guides.

What To Teach

After reviewing the wide variety of elements that one should consider when planning a health education curriculum, it soon becomes evident that selecting the appropriate subject matter to teach is no small undertaking. Topics and activities need careful scrutiny. The Harvard Report admirably points this out when it says, "Selection is the essence of teaching."[1]

In planning what to teach it is necessary to answer some very specific questions on *student needs* before arranging the course of instruction in final form. The teacher asks:

1. What are the characteristics of my children at specific age levels?
2. What am I able to observe in the way of the health and safety practices of my children in various specific situations?

1. Report of Harvard Committee, *General Education in a Free Society* (Cambridge: Harvard University Press, 1948), p. 63.

3. What are the health and safety hazards in the local community?

4. What are the health problems and safety hazards in the state?

5. How does the local school environment furnish leads for health instruction?

6. What are the findings of medical examinations and screening tests?

7. Are there major student interests that relate to health education?

8. Have the pupils had experience in other areas of learning which provide leads for needed health instruction?

9. What is the relationship of the basic health needs of all persons to the health needs of children?

Once the answer to these questions is obtained the teacher is ready to build the health resource and teaching units. Furthermore, the advantage of seeking answers to these questions is to provide a means of moving away from a stereotyped curriculum (the kind that is automatically used from year to year) to a flexible and vital curriculum that is in tune with the real health needs of pupils in the local community. There is no better way to take advantage of awakening interests and provide a stimulating school experience designed to improve health understandings, attitudes and habits.

It comes as no surprise to most people to learn that health knowledge per se can mean very little. For decades teachers have taught useful health information, yet the world is full of people who failed to apply what they apparently learned. Often the pupil who receives an "A" in the topic of dental health grows to adulthood harboring a mouth full of decaying teeth greatly in need of care.

Mere exposure to knowledge is not enough. Every social misfit in this country has been exposed to the influence of a number of teachers. Add to this the millions of cases of people involved in vocational failures, chronic unemployment, marital unhappinesss, emotional instability, and other expressions of failure, and it becomes quite evident that the planning and teaching for understandings and attitudes is a most difficult task requiring the best in curriculum, methodology, and teaching.

Desirable Major Health Topics

A broad and varied program of health instruction in the primary and intermediate grades, geared to the basic and local health needs of children, should be concerned with the following topics. Not all of these will necessarily be covered in one grade, but should be structured throughout the elementary period.

1. Personal Cleanliness and Appearance
2. Activity, Sleep, Rest, and Relaxation
3. Nutrition
4. Dental Health
5. Body Structure and Operation (includes eyes and ears)
6. Prevention and Control of Disease
7. Safety and First Aid
8. Mental-Emotional Health (includes alcohol and tobacco)
9. Family Life Education (includes sex education)
10. Community Health

Planning for Methods and Materials

It would be quite inappropriate to plan a course of study at any grade level without at the same time planning the

special methods or techniques to be employed. This "orderly procedure or process—orderly arrangement" (after Webster) is what makes teaching an art, instead of mererly a science. Art gives meaning to experience—it puts bits of information together. It is the means selected to achieve objectives.

To plan a health instruction topic without also planning the method of presentation produces only half an effort; successful health teaching is both an art and a science. Textbook study, for example, may work satisfactorily in pursuit of nutrition knowledge and attitudes, but experiment with white rats may help the pupil retain and use specific health information more significantly. One must plan whether to use classroom discussion, the library, problem-solving, etc.

Likewise, health materials, when planned for and used intelligently, promote the most effective kind of learning. There are values and meanings that simply cannot be expressed by words. Colors, tones, images, immediately visible and audible qualities, etc., are powerful agents. They help the student *do* something *with* something. And because it is purposeful activity, he feels, listens, smells, and sees health concepts through the use of material things.

Proper instructional materials in health teaching require as much planning as the curriculum topics themselves. For with them the student is able to "see it," "feel it," "work it," or "try it out" and in so doing he seeks a rich, full-bodied experience that is the bedrock of all education. It is the unabridged version of life itself—commonly referred to as "something you can sink your teeth into."

Summary

Health education in the elementary school cannot be a hit or miss affair, nor can it be limited to following a "prescribed" course of study. Also it must involve more than the curriculum topics; the methods and materials used have to be carefully planned.

Simply stated, planning the health education program involves a high degree of school-community co-operation, inter-grade adjustments, correlation and integration with other subject fields, and a dedicated teacher. In fact, the role of the classroom teacher as a prime mover in the health education program cannot be denied. Without her enthusiastic support the total school health effort would indeed be handicapped if not doomed to failure.

The wisest man could ask no more of Fate
Than to be simple, modest, manly, true,
Safe from the Many, honored by the Few;
To count as naught in World, or Church, or State;
But inwardly in secret to be great.

—James Russell Lowell, *Jeffries Wyman*

Health Education In Secondary Schools

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WITHIN the memory of many persons living today a tremendous co-operative effort has been made toward improving the health of children. This effort includes a focus of attention by individual doctors, dentists, nurses, psychologists, speech and hearing therapists, public health personnel, nutritionists, welfare workers, and others in a determined and successful attempt to maintain and improve the health of boys and girls of all ages.

In addition, these individuals interested in child health improvement have been challenged, motivated, and supported by professional, scientific, social, and educational organizations ranging from White House conferences on nationwide health concerns to community groups trying to develop more effective ways of making progress on a local basis.

Within recent years also increased health emphasis has resulted in worldwide attention to and improvement in the health of children. The briefest review of activities of the World Health Organization (WHO) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) reveals unprecedented attacks on diseases, defects, poor enviroment, and patterns of living—all causes of human misery as well as death and disability.

In keeping with these medical, public health, and social emphases, educational programs in the Sixties are noticeably characterized by an organized, planned, co-operative, enthusiastic effort to discover the causes of poor health and to improve it wherever possible. This approach is made through the oftenquoted definition of health from WHO as a "state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

Health Education in Secondary Schools

Today health programs for schools are co-operative, community ventures. They must be, for modern health education does not—in fact can not—depend upon single individuals or specialties.

Medical advice and counsel following an examination may need assistance from a psychologist. Health services ably provided by a school nurse will often need full support from a nutritionist. Even with many fine close personal relationships with pupils a teacher cannot conceivably hope to solve all health problems in the classroom. The school administrator must have a sound perspective of *education for health* as a responsibility of the entire school per-

sonnel, working in harmony with community health agencies.

Some concern is noted that education for health, by its very diffuse nature and broad definition, often seems to be struggling for existence in the modern secondary school curriculum. There are several reasons for this concern, among them the considerable emphasis on science (and the belief by some that the science teacher should be the health teacher); the shortage in many schools of teachers who are soundly prepared in the broad bases of physical, mental, and social well-being; lack of motivation and interest among high-school pupils; and a lack of leadership in co-ordinating an effective program of health instruction in junior and senior high schools.

Health Instruction

Health instruction in secondary schools is concerned primarily with planned learning experiences. These experiences are designed to influence the behavior of the boy and girl in the daily habits of living that already may have become routine and the attitudes that can affect learning so easily.

Health instruction should also guide the conduct of young people involved in so many activities ranging from experimenting with smoking and sex practices to nibbling on candy bars. From the point of view of adolescents the range is from exciting to humdrum, from interesting to boring. A consideration of the human body can be limited to a memorization of the names of body parts (humerus, radius, and ulna can be "pretty deadly"); another approach to the same human body can be very exciting when speculating upon the complexities of reproduction, the effect of radiation, or how to improve the appearance of the skin.

A school can organize its health instruction in several ways:

1. Use of the content of many courses to provide information and reinforce learnings. The high-school curriculum includes several areas with definite opportunities for understanding health concepts. Some of these are biology, general science, home economics, vocational and industrial arts (with particular reference to safety), physical education, and social studies. Health education opportunities also are found in English, foreign languages, mathematics, and the physical sciences.
2. Use of activities often found in the usual procedures of a school day. Some of these are assembly programs, lectures and demonstrations, dramatic presentations, special projects, campaigns, the school lunch program, the school paper, and films and other visual aids.
3. Use of health guidance on an individual basis. Many health concerns are highly personal in nature, especially for the adolescent, and often a person-to-person relationship is most effective in learning.
4. Use of direct health and safety instruction. This is usually a regularly scheduled program of teaching often built around areas of subject matter, but recognizing the characteristics of the age group and background of experiences as well as present interests and future needs.

Goals through Health Instruction

By the time a boy or girl graduates from the twelfth grade, an adequate program of health instruction should have achieved certain specific goals. These goals are not all achieved in the secondary school; they should be a gradual accumulation of learnings over a period of time.

1. A sound understanding of the basic facts concerning the causes and consequences of disease and illness. An active desire to prevent sickness should be developed.
2. A workable understanding and use of competent health services: where to find help, when to seek help, the limitations of some services, and the dangers in the use of unqualified persons.
3. The ability to choose wisely from among many thousands of products which may be good, bad, or indifferent from a health standpoint. Young persons should develop judgment in buying, with a conscious discrimination in regard to advertising claims.
4. The ability and desire to keep himself and his surroundings, in so far as possible, free from hazards and the threat of accident or injury. A nice balance should be obtained between caution and adventure so that life is a zestful experience rather than a fearful undertaking.
5. An understanding of the effect of alcoholic beverages, tobacco, and narcotic drugs on the body, and the social, economic, and psychological consequences involved in the use of these substances.
6. The use of consistent good judgment in regard to food and health. Sound eating habits should have been developed and good nutrition maintained in light of current recommendations of authorities and current practice.
7. A good development of the skills of living—the ability to get along with yourself and with other people. This includes an understanding of personal limitations and strengths, of human behavior, of the stresses of modern existence, and of the way to live successfully in and with modern society.
8. A wholesome attitude toward sex as an essential and natural part of human existence. Health instruction should move young people from attitudes regarding sex as shameful, base, and harmful, to a concept of sex as a part of human personality and normal adjustment.
9. An active interest and participation in physical activity best suited to the individual. This is not so much something learned as something lived, and includes a variety of interests and skills so as to provide recreational as well as vigorous activity and a sense of healthful balance in all physical endeavors.
10. A realization that health is not only a personal matter but a family responsibility, a community concern, and a world problem of great importance.

Content of Health Instruction

In the junior high school emphasis may be planned to provide a sound understanding of the wonderful complexity of the human body, responsibility for personal care and daily hygiene, the values of physical fitness, first aid and the prevention of accidents, good nutrition, personal appearance, the effects of alcohol, narcotic drugs and tobacco, the scientific basis of disease control, and good social relationships.

In the senior high school health instruction can include several broad areas of interest to the boy or girl rapidly maturing, preparing to enter an adult world, and assuming increasing responsibilities. Some of these areas may center around consumer goods and services affecting health; dating, preparation for marriage, and family living; heart disease and cancer education; community health responsibilities; occupational health; health organization on local, state, national, and world bases; health and safety aspects of civil defense; and personal adjustment. Driver education is often included in the eleventh grade, both on a classroom and behind-the-wheel basis.

The School Health Team

The success of a health program in any secondary school lies largely in the realm of leadership and planning. The wholehearted support of the school administrator is an important factor, even though many of the specific responsibilities can be delegated to others. The entire school is involved—that is, teachers are concerned, all staff members are interested, and all pupils benefit from a clear understanding of the important goals of health and education. The delegation of responsibility in this program can be assumed by a health co-ordinator, either on a full-time basis or on a part-time basis, as the situation seems to demand.

The health co-ordinator is qualified by reason of experience, education, interest, and ability to plan and evaluate a long-range, comprehensive program, using the full resources of the school and community. Both time and budget provisions should be made, and pupils and parents should be included in the structure of the plan.

Studies and surveys may be needed to discover information. Policies need to be formulated, understood, and put into action. Evaluations are a normal part of any planning. The content of courses should be determined, progression and sequence decided, and agreement reached as to how local needs can be met. In-service education for teachers demands planning and judgment. These studies, decisions, policies, and plans are best developed not by one person assuming all responsibility, but by a group of interested individuals who can provide leadership and direction.

Such a group—often called a health committee or a school health council—can be invaluable in a decision-making and action program. Membership on the committee or council may vary according to the size of the school and the number of agencies or resources available for help. While the work of this group may be varied enough to include school health services, school environment, school lunch programs, accident prevention, and physical education, major emphasis may be placed on specific problems of health instruction such as these:

1. What health instruction is included for pupils?
2. How can health instruction become functional in school and out-of-school situations?
3. Does the school have a written, planned program of suggested health experiences for all pupils, without gaps or excessive duplication?
4. Is the program of health and safety instruction evaluated and reviewed periodically?
5. What instructional materials are needed?
6. What resources in the school and community are available to aid in health instruction?

The school health team can be a functional aid in assisting the health coordinator as well as a democratic procedure in school administration.

BOOKS FOR YOUNG READERS

THE ISLAND SHEPHERD. Story and Pictures by Yolla Niclas. New York, N. Y. Viking Press. 1959. $3.00.

Youngsters from nine to twelve are going to enjoy this unique book. Twelve-year-old David looked forward to his summer holiday in Star Harbor, Maine. This particular summer turned out to be quite different from all the others he enjoyed at this lovely spot. He found an old shepherd, a retired sea captain, who made a way of life for himself that was both useful and beautiful. Captain Groves proved to be a good friend and a wise old philosopher. The photographs of the island, the shepherd, and his work are especially sensitive.—Paul Zankowich

THE CLOCK WE LIVE ON. By Isaac Asimov. New York, N. Y. Abelard-Schuman. 1959. $3.00.

Here is a comprehensive story of time that will interest both young readers and their parents. Isaac Asimov probes deeply into the concept of time and the way man has measured the minutes, the days, the months, and the years. He points out that, behind our clocks and calendars, there are the basic principles of astronomy, geography, and the events of history. The vagaries of Easter, the numbering of the years, the origin of the names of the days of the week are but a very few of the topics treated in this intensely interesting book.—Paul Zankowich

BEST FRIEND AT SCHOOL. By Mary Bard. Illustrated by Dorothy Bayley Morse. Philadelphia. J. B. Lippincott. 1961. $3.50.

Here is a book for youngsters from nine to twelve. Susie and Co-Co are sisters and very good friends, too. Their friendship is nearly broken up during their first year at Laurel Crest boarding school. The trouble centers around Puanani, a fascinating Hawaiian girl who has the room next to the sisters. All in the school learn hula dances, as well as Hawaiian eating habits and even Hawaiian slang. The real trouble starts when Puanani mysteriously disappears. The story is based on a real school and should appeal to girls.
—Paul Zankowich

THE GHOST OF BLACKHAWK ISLAND. By August Derleth. N. Y. Duell, Sloan and Pearce. 1961. $3.00.

Like all the stories from the pen of August Derleth, whether for young readers or for older ones, this one is set in his native Wisconsin. Steve Grendon and Sim Jones, two of Derleth's perennial characters, are involved in a hairy adventure on an island in the middle of the famed Wisconsin Dells. What they first saw looked like the ghost of an Indian chief. With the help of a young Winnebago, they not only escape from the clutches of the law and the ghost but they also find a solution to the mysterious goings-on in Blackhawk Island.—Paul Zankowich

Education for Safe Living

VIVIAN WEEDON
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Chicago 11, Illinois

MANY years ago, a committee of the American Association for Colleges of Teacher Education (then known as the American Association of Teachers Colleges) defined "safety education" as "that area of experience through which boys and girls learn to make wise choices when the possibility of injury to self or others is one of the factors involved."

The committee further stated that "'wise' choice does not necessarily connote avoidance of the possibility of injury but does connote conscious consideration of the safety factors involved." Ruled out also were disease, mental injury, treatment following injury, and protection from enemy or criminal action.

In presenting this definition, it is not the purpose to suggest what shall be taught, but merely to make clear the limitations of the following discussion. It is recognized also that there is a great deal of overlapping between accidental and intentional injury, conscious or subconscious, disease, and mental injury.

The Accident Problem

Holding the above definition in mind let us look at some figures (1) to see how important safety education is to boys and girls of school age.

Accidents kill more school- and college-age individuals than any one disease. The figures below show the proportion of deaths from the top three causes in each age group:

5 through 9		
	accidents	38%
	cancer	16%
	congenital malformations	9%
10 through 14		
	accidents	42%
	cancer	14%
	congenital malformations	7%
15 through 19		
	accidents	56%
	cancer	8%
	homicide	4%
	suicide	4%
20 through 24		
	accidents	50%
	cancer	8%
	homicide	7%

Thus it is quickly seen that accidents exceed the next highest cause of death, respectively, by more than twice, three, seven, and six and one-half times. Moreover in the 15 through 24 bracket accidents take *one* out of every *two* individuals who die.

Obviously many of those who die in the 15 to 24 age group are not in school. No statistically significant studies have been made to show the difference in accident fatalities between those in school or college and those out. However, what data are available indicate that the difference, if any, is in favor of students having more accidents.

On the basis of death experience of this age group, if we accept the fact that

health education should be included in the school curriculum, it follows that it is even more important that safety education be included.

Keeping the child alive is not the primary task of the school, nor is teaching him to stay alive during his school years. The school must always have what Laura Zirbes (2) refers to as a "forward reference." Thus it behooves us to look ahead and see whether or not accidents are important in the years following formal schooling. The facts are that accidents continue as the first cause of death through age 36 and for all ages are exceeded only by heart disease, cancer, and vascular lesions affecting the central nervous system.

Further, although accidents become relatively less important as a cause of death as the individual grows older, they become more important in terms of death rate (number of deaths per 100,000 population) because, of course, the total death rate increases. Thus the all-cause death rate for 5 to 14 is 47, with an accident rate of 19; for the over 75 age group is 10,521 with an accident death rate of 289.

Accidental Injuries

Deaths, of course, are only one facet of the problem. Unfortunately we do not have national statistics, by age levels, for injuries. Special studies have indicated that the proportion of number of injuries to number of deaths follows the all-age relationship.

This relationship differs with the type of accident, the following being very rough guides. For motor-vehicle accidents there are probably about 35 injuries for every death; for firearms 10 to 15 injuries per death; falls, 150 injuries to one death. There are very few near-drownings compared with the number of actual drownings that occur each year.

There can be little question that accidents constitute a problem sufficiently serious in today's world that safety education should be taken seriously as an essential part of the preparation of America's boys and girls.

Types of Accidents

Still holding the definition in mind, let us look at the types of accidents. The National Safety Council has spoken of accidents to people where they *live*, where they *work*, where they *travel* and where they *play*. These four categories correspond in general to the four large statistical classifications, which, with their totals for a recent year, were as follows:

Class	Deaths	Disabling Injuries
Motor-vehicle	38,200	1,400,000
Home	27,500	4,100,000
Public (swimming, hunting, non-motor vehicle transportation, accidents in public buildings, etc.)	16,500	2,050,000
Work	13,800	1,950,000

The total deaths is 93,000 and disabling injuries 9,400,000. Disabling injuries are injuries that disable a person beyond the day of the accident. These totals are less than the sum of the category totals because some acci-

dents are classified in two or more categories. For example, an accident may be classified as both motor-vehicle and work, or as both motor-vehicle and home.

Another type of classification follows (order is frequency of deaths for all ages): motor-vehicle, falls, fire-burns, drowning, railroad, firearms, poisons (except gas) and poison gases. The magnitude of these types differ with age levels. Motor-vehicle is the first cause for all ages except over 75, where falls are first. Drowning is the second cause of death for school-age, and fire-burns for the under-five group.

Causes of Accidents

It has long been established that an accident does not have a single cause, but is the result of a sequence of causes. The age-old three "E's" of Safety, "Engineering, Enforcement, and Education," point to three causes.

Heinrich (3) has described the accident sequence as beginning with "social environment or ancestry," which includes such factors as " 'recklessness, stubbornness, avarice, and other undesirable traits of character' passed along through inheritance or developed by the environment." These lead to "fault of person" (temper, nervousness, excitability, ignorance of safe practices, and so forth), which leads to the "unsafe act and/or the mechanical or physical hazard."

Both of these methods point to the importance of education, for one must be educated to accept safety engineering and enforcement, and education can help to modify undesirable traits of character which lead to many of the accidents that occur.

Safety Education a Total Job

Safety education involves a great deal more than understanding rules and regulations and acquiring skills. Attitude is, of course, extremely important. Let us see what Professor William H. Mann (4) of Michigan State University says with reference to teenage driving:

"Specific attitudes toward driving are not an isolated part of the driver's personality but rather a projection of it. . . . Babies born into a hostile world, with inadequate parents who neglect or mistreat their offspring, develop strong feelings of insecurity. As the youngster grows, his relations with his parents, his playmates, and with other adults can either improve or weaken these feelings. Thus, it is particularly important that the early elementary teacher be a warm and accepting individual."

Thus he who is interested in safety education must also be interested in good well-rounded education, education which takes into account the child's abilities and needs, his stage of development and his past experience. While attitude is certainly not the whole of safety education, unless the child has a realistic opinion of himself as a worthwhile individual capable of contributing to the common welfare, regardless of his intelligence quotient, his academic achievement, his economic status, race, or religion, there is little point in teaching him safety information. Neither is there much point in developing safety skills and abilities.

For this reason the safety educator is forced to take side in educational discussions which apparently have little relation to safety. He must stand four-square behind education which is

soundly based on mental health principles, which includes a balanced curriculum, which meets the educational needs of all American boys and girls, and which includes no artificial academic caste system.

Science and Safety

All rules for safe living are based on a physical, chemical, or biological scientific principle. Consider the following examples:

1. "One on a bike"
   The center of gravity and therefore the ease of balance is affected when an additional body is placed on a bicycle constructed for one.
2. "Sprinkle sand on icy surfaces to keep from slipping."
   The scientific principle of friction is employed here.
3. "To lift an object, crouch to it with your knees bent, grasp hold of the object and lift as you stand by straightening your knees."
   The muscles of the legs are stronger than those of the back and therefore can better stand the strain of heavy lifting.
4. "Never use a chlorine bleach in combination with ammonia."
   The combination of the two chemicals produces a noxious vapor which may be harmful.

Try it yourself. You will find no safety rule that is not rooted in scientific principle.

Social Studies and Safety

"Social studies" as used here refers to the areas of inquiry such as psychology, sociology, and citizenship, taught either separately or together, which deal with the questions of how people behave, work together, and solve mutual problems.

This gives us a two-sided coin, one side being science which tells us how to live safely; the other social studies which tells us how to influence people to follow the dictates of science, through legislation, enforcement, and persuasion of religion, social pressure, mores, and mass media.

Safety is no different in this regard from any other social problem but according to Whitney is one especially suited to study by the elementary school child.

> **Few of what we adults consider the problems of life are fit intellectual soil for the child. Problems of marriage and divorce, labor problems, race problems, problems of vice and law enforcement, problems of peace and war, and even the problem of making a living—none of these is a suitable subject for young children. But safety is a practical problem that impinges directly upon the child at an early age, and furthermore, one that is quite within his comprehension and one which he can, himself, meet and solve. At first the situations are simple and affect only the child himself. With the growing complexity and socialization of his environment, his problems of safety become more complex, more socialized, and the solution more difficult; yet they continue to be within the range of his growing capacity (5).**

It is this fact which gives the learning potential to so many organizations in which pupils participate in the provision for their own safety. The Student Safety Council, the School Safety Patrol, Playground Patrol, and Junior Fire Marshals when conceived as an integral part of the social studies curriculum, have great value. When they are considered as merely service organizations

or "playing at" being policemen or firemen they are little more than worthless.

Safety in Other Curriculum Areas

There are many areas of the curriculum where it is immediately apparent that safety is integrally interwoven: Physical education, recreation, athletics; vocational education, home making—as a matter of fact, all shop and laboratory courses have obvious accident potential which makes protection of the learner and his education for safety an absolute essential.

In the more sedentary aspects of the curriculum, safety plays the dual part: (1) safe environment, which of course is essential all through the school plant, and (2) the use of safety content for illustrative purposes as in studying accident statistics in mathematics courses; in learning safety songs in music classes; translating safety signs in foreign language courses; writing safety newpaper briefs, giving safety speeches, radio or television programs as part of language arts learning.

Driver Education

There is one area which must have special mention and this, of course, is driver education. Driver education is, in essence, no different from learning to play a drum or cornet, run a lathe or a sewing machine, play tennis or paint a picture. There are two factors which make the teaching of driving at the secondary school level and the preparation of teachers for driver education at the college level of special importance.

First, practically every person who reaches legal driving age in the United States of America in the 60's will drive a car. Therefore knowing how to drive is an ability needed by every student.

Second, the consequences of poor driving are so disastrous to the individual, the community, and the nation that this is an aspect of safety education which society simply cannot afford to neglect.

Some critics claim that schools have no right to teach practical subjects such as driving, but well-taught driving—and it must be well taught to be effective—involves as much meaningful academic learning as any course in the curriculum. As a matter of fact the first driver education course in the state of Illinois was taught by a teacher searching for some area which would include the content of high-school physics, and would also be meaningful to female students.

Summary

An attempt has been made to define safety education, give some indication of the scope and magnitude of the problem which safety education attempts to help to solve, and to relate safety as a content area to the school curriculum of the sixties.

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Means of Studying Communicable Diseases

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SCHOOLS are charged with providing the best possible environment where every child may have a chance to develop to his own highest potential, physically, mentally, socially, or emotionally. While we are chiefly concerned at this point with the first of these, it must be remembered that all of the above are important facets in a child's life, and that each contributes its share as a part of an ever-changing kaleidoscopic pattern in which first one, then the other, seeks dominance.

A program of health education must be supported by an environment which offers an opportunity for the *child* to practice what *we* preach. In this, the home, school, and total community must co-operate. Opportunities for learning experiences must be provided which are conducive to the development of certain basic understandings, skills, appreciation, and acceptance of the best available health standards upon which to build attitudes and habits.

Any approach to the presentation of health information and opportunities for the development of adequate and accepted habits and attitudes must be based on an understanding of the needs, opportunities, interests, capabilities, and desires of each group at each age level.

The probable degree of success which a well-informed teacher may expect from any program depends upon how well it takes into account the willingness and ability to co-operate of families steeped in tradition and folklore. Furthermore the status of the community with respect to its special opportunities and resources is an important factor. In addition, the school administrator's attitude and support are fundamental to the success of any health program and to the impact which it will have on the home and community.

Schools have the task of contributing to pupil health by supplementing family responsibility through educational procedures and health and safety measures which are preventive, protective, and conducive to learning in a healthful atmosphere.

The Importance of Control

Communicable disease no longer has the decimating effect on our childhood population which it had not so very long ago. Our vigorous programs for early diagnosis, immunization, isolation and quarantine, our programs for community sanitation (including such vital factors as housing, food control, and sewage disposal), have helped immeasurably to wipe out a large percentage of once-common intestinal diseases such as the typhoid group, the dysenteries and cholera. They have also

helped to minimize the incidence of diphtheria and scarlet fever.

A better understanding and control of problems of air pollution and the potential dangers of droplet infection have reduced the incidence of many respiratory diseases. The so-called wonder drugs have contributed their share toward the control of rheumatic fever and its sequelae. Increasing knowledge about vaccines has practically wiped out smallpox, whooping cough, tetanus and poliomyelitis. Early detection, isolation and treatment have lowered the incidence of tuberculosis.

However, some of the virus-caused diseases, including measles, mumps, and the common cold, still take a high toll in absenteeism. The very fact that the threat of childhood communicable disease has been so greatly lessened has contributed to our complacency in the matter of preventive measures, particularly immunization.

The Role of Education

One of the best weapons for combatting communicable disease is education of the public. Education directed at the parents of younger children must be intensified so that the school program may be reinforced. This can be done through parent-teacher organizations, parent-teacher conferences, and by enlisting the help of school health personnel and private physicians and public health personnel and agencies. Public health education through mass media can be supplemented by school-home contacts, particularly in the face of an impending epidemic.

With ever-increasing demands on teachers for community service, it becomes most important that they fortify themselves with the basic facts about communicable disease, including detection (not diagnosis) and the local policies for control through isolation and immunization. The teacher must be alert to the prevalence of specific diseases in the community and the measures which are being taken for their control. The teacher should know about the availability of community resources for those who need them.

With this type of preparation, the teacher is particularly well equipped to guide the younger children through the fall and spring periods of higher incidence of common childhood communicable diseases.

The Primary Level

At the kindergarten and primary level, where exploration and experimentation by children are characteristic, the building of habits and the development of the ability to recognize accepted behavior patterns is fundamental. At the higher grade levels, an increasing interest in the reasons for taking certain precautions and the causes behind certain changes and how these may directly affect the pupil himself become apparent. Pupils want to know how they measure up to their peers. They develop an increasing interest in past discoveries and future possibilities.

The younger child must be directed and often led. His older brother may rebel unless he understands what is going on, and why. He wants to help in the planning. At all grade levels it is important to know the normal physical, mental, and emotional health patterns and to set developmental tasks and goals in gear with these so that the highest degree of success may be achieved.

Health status, for the most part, parallels learning achievement but not necessarily learning ability. Absences take their toll, as do debilitating aftermaths and bouts in bed.

The Elementary Level

Health teaching at the elementary level, in providing means of prevention and protection of life, would be chiefly concerned with the fundamentals of healthful living. Such topics as safety at home, at school, and on the street, and patterns for good nutrition and adequate sleep are important. High on the agenda also would be communicable disease control. The elementary facts of how a child may better his chances of avoiding colds and some of the other droplet-born or air-borne diseases can be taught.

The young child should learn the importance of staying away from persons who have some or all of the following symptoms and signs: coughing and sneezing, "runny nose" and red, watery eyes, sore throat, stiff neck, painful joints, nausea and vomiting. He should become aware of the probable significance of these manifestations as they appear either in himself or in his peers. He should be encouraged to report such illnesses to his teacher and to his mother so that they may be alerted to watch for possible signs in other children.

When close contacts are unavoidable, as in the school bus, in public transportation, and even in the home or classroom, distances which organisms travel between the afflicted person and the new victim are shortened, and they have a better chance for survival in the new host. Even small children can understand this and the reasons why they should stay at home when they are ill. They should be taught how and why to cover up a sneeze or cough.

Disposable tissues should always be available and their use encouraged. Some children need instruction in how to blow through both nostrils at the same time and how to dispose of used tissues so that they might be burned quickly, and not left behind in a trail across lawns and floors. Even adults are careless in this regard.

An Immunization Program

Adequate records for the protection of children entering school for the first time should include the history of immunizations against diphtheria, whooping cough, tetanus, and poliomyelitis. Most children have received their first round of protective shots before they enter school, and some may already have had some of their booster shots. Others are not so fortunate.

Records for all pupils should be brought up to date and should be available to the teacher in helping her to plan for the immunization program which may be scheduled by community health personnel with the help of parents and school administrators. This is especially important for those children for whom the services of a personal or family physician are not available.

Preparation for such a program is an important educational responsibility. Teachers, through their classroom efforts, can make a signal contribution to the success of such a program. Parents are usually willing to help. Little children become less apprehensive if they know what to expect and why such a program is important in preventing illness.

Much of the health teaching at the kindergarten and primary level can be informal and is often incidental "on-the-spot" teaching in response to a child's question or because of immediate need. The young child must learn habits of cleanliness, proper use of toilet and hand-washing facilities, keeping his hands away from his mouth, and not swapping partially eaten candy or other foods. He should be taught to keep pencils and toys out of his mouth.

Other health-promoting practices may be developed through motivation in the classroom. For example, class discussions may be held about such topics as safety on the way to school, washing hands before meals and after toileting, the need for a good breakfast as part of a well-planned and adequate diet, the need for plenty of sleep and for regular dental care, including how and when to brush the teeth.

The Intermediate Level

Members of a fourth-grade class compared the breakfast of little Dutch children with their own. Another group studied the diet of Eskimos. As a culminating activity in each case, the children served a simple American breakfast to which their parents were invited. Role playing in intermediate grades can be very stimulating. A "dry run" of the line-up and procedure for an imminent immunization program can help a child to substitute familiarity for fear.

Recounting and sharing experiences when Jane had measles and John had mumps can serve dramatically to focus attention on how to use a thermometer, why bed rest is important, what kinds of food a sick child needs and how he can entertain himself as he gets better. He can learn what the doctor's visit means and why baby sister can not come in to play with him.

The Junior High School Level

The junior high school student will be ready to learn more about the organisms that cause disease by studying prepared slides with a microscope. Simple methods of growing ordinary non-pathogenic bacteria or molds may be classroom experiments. Interest can be aroused in making a diagram or chart with such information about the common childhood diseases as the kind of organism thought to be the cause and how it leaves the body of the patient and enters the next victim.

Discussions about preventive methods can be more specific and more detailed. Lessons on immunity will be more interesting when the child's *own* immunity is being talked about. He may ask questions about whether he is protected against "lock-jaw," or what to do if he is bitten by a dog. The life and works of health heroes like Pasteur, Jenner, Sabin and Salk and others will make good reading for him.

Pupils in this age group are often experienced baby sitters, and must know some of the basic facts about child care and protection. They can become proficient in helping with the home care of ill relatives, or they may profitably spend some time as hospital aides or orderlies. Simple routines of home nursing should be part of their educational equipment.

The Senior High School Level

Both junior and senior high school students can learn to assume respon-

sibility for their own medical and dental appointments and keep them. Because they are much concerned about their appearance, they may take the initiative in getting corrective measures for acne, for obesity, for underweight, poor posture, or allergies. They are too short, too tall, too fat, too thin, too clumsy, so they tell us.

Some of them become victimized by the advertising of quacks who guarantee a better-looking profile, increased vitality, the figure of a Venus or Apollo. Miracle reducing pills, watermelon or banana diet, lemon and honey magic and many other "sure cures" have given false hope at no bargain prices. Learning to evaluate medical services and advertising, refusing to accept "over-the-fence" medical advice and refraining from self-diagnosis and self-treatment are important steps toward becoming mature citizens. Subjects for debate may be such topics as fluoridation and the reduction of dental caries, or smoking in relation to lung cancer, or diet and high blood pressure. Questions regarding the tie-up between alcoholism and tuberculosis or venereal disease make excellent topics for research studies, and information is available through many professional and voluntary agencies. We need not fear taking these students beyond their depth.

Why not give them an opportunity to gain up-to-date factual information, well documented, about the new ideas about cancer, or some of the newer vaccines and drugs? They can learn about the responsibilities of various governmental agencies in health matters, and about the increasing need for international exchange on health problems and health information.

They will talk glibly about radioactivity, or fall-out. What do they really know about protecting themselves against infectious mononucleosis (Students' Disease)? They know a great deal about the mechanisms of many makes of cars, but what can they tell about their own body defenses against disease? The health curriculum must be revitalized to the point where it challenges young people! They must acquire competencies in this field which will prepare them for their future roles as parents and substantial citizens.

They must be prepared to act wisely in the face of an impending epidemic, and must select competent medical advisers, and realize the importance of co-operating with school and other community forces for the maintenance of the highest possible living potential for themselves and their families. This kind of preparedness is a good investement in national security.

The philosophies of one age have become the absurdities of the next, and the foolishness of yesterday has become the wisdom of tomorrow.

—Sir William Osler, in *Montreal Medical Journal*

The Improvement of Nutrition

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THE above title has many implications for the general educator at any level. To the discerning observer the effects of the nutritional sins of the past are both obvious and hidden in the present generation. A concern for the nutritional aspects of health education should in itself present a challenge to a teacher, whether she or he be specializing in health education or directing the general learning processes of children at any age or in any field.

The preceding statements may arouse feelings of interest and agreement or indifference and frustration on the part of the reader. This paper endeavors to stimulate an awareness of and interest in the subject of nutrition as an important phase of health education. Furthermore, it attempts to eliminate some of the frustrations through guidance into techniques and aids for such teaching.

The general public has been made aware of the word "nutrition" through widespread advertising by food enterprises. Some of this advertising has been valuable, educational, and sound. Some of it unfortunately has been misleading and unsound. The popular women's magazines have influenced the conscientious housewife and mother into assuming responsibility for constructive feeding habits among the members of her family. No matter whether the credit should go to health educators, nutritionists, or home economists, the importance of an adequate diet is becoming of greater significance in the thinking of the American public.

At the same time we find snack-type foods being made more attractive and accessible. Unfortunately the most gullible and interested customers for these items are children and young people, particularly the fast-growing teenager who is much more apt to listen to the advice of his own age group than to his solicitous parents.

Educators are constantly concerned over better methods of teaching the basic skills and subject matter to the young people with whom they work. Shouldn't they incorporate into their thinking the importance of helping establish sound judgment in nutritional practices also?

A casual glance through the content of almost any medical, dental, or other publication dealing with the physical care and development of our bodies and minds, reveals articles pertaining to food and its effect on the body. More and more attention is given to the ill effects of inadequate dietary practices among the American people, particularly the teenage group.

Such being the facts, what can and should the general educator do to improve this situation which obviously needs improving?

Arousing Interest of Educator

First of all, the teacher must have an interest in the area. Even a brief

survey of the literature pointing out the needs in this field should be a stimulus to activity. The January, 1960, issue of the *Journal* of the American Dietetic Association was largely devoted to concern for teenage diets. It refers to interesting studies which have been made in the field.

Three outstanding publications pointing out the problems concerned and suggested approaches for the teacher are: (1) *Robert's Nutrition Work With Children* by E. A. Martin; (2) *Teaching Nutrition* by Pattison et al.; (3) *Health Aspects of the School Lunch Program* published by a joint committee of the National Education Association and the American Medical Association.

Other prepared printed material is supplied by the National Dairy Council, National Livestock and Meat Board, American Baking Institute, General Mills, and Florida Citrus Commission, to mention only a few. The American School Food Service has prepared a rather comprehensive bibliography of audio-visual materials in the field. Other sources of help are board of health nutritionists, health education departments, state school lunch departments, state home economics departments, American Dietetic Association (national, state, and local), and State Home Demonstration Departments.

Arousing Interest of Students

With children in primary and intermediate grades, the idea of building a strong body machine is often a constructive approach. Another source of interest may be gained by relating the eating habits of animals to those of man. A third may be a study of eating habits in other races or nationalities and a comparison with those of our own country.

With junior and senior high ages, athletic prowess in boys and physical appearance in girls offer points of beginning. Fortunately this age group can be a very powerful and constructive force if properly approached through its recognized leaders. Its members are for the most part reasonable and rational. Though they assume a rather self-sufficient and independent manner, they are still inclined toward hero worship and look to respected adults for patterns of behavior and guidance. They especially admire a favorite teacher or club sponsor. It is by utilizing this tendency that we may be able to succeed in motivating a unit or project in wise nutrition learning.

Techniques and Tools

Nutrition per se to most pupils would probably lack appeal. A subtle introduction by incorporation into other subject areas would be more effective.

The psychologist who told a group of School Food Service dietitians that their effectiveness was cut down when they said, "Eat this because it is good for you" had a thought for all teachers.

When Miss Matilde Gillis, former president of the Department of Elementary School Principals, NEA, called the school lunch department "a curriculum laboratory," she put her finger on an effective nutrition area. Every situation in a child's day provides a learning experience. Some are desirable, some otherwise. The degree of value to the child of his school lunch experiences can be influenced and guided perceptibly by the classroom teacher. The following examples from the University

School Cafeteria at Florida State University point this out.

In the Lower Grades

When one of the first-grade teachers orients her charges early in the year into the rest of the school, she includes the school lunch dietitian among the "helpers" who come to be introduced. She arranges ahead for a "field trip" to the school lunch department to meet the workers at their tasks, thus preparing the children for pleasant future nutrition experiences.

Another teacher introduces good food habits by discussion and pictures. With a basic eating plan, such as the familiar "Basic Seven" or the newer "Four Foods Group," the children form small units for the study of each group of foods.

During this study they cut out pictures for a bulletin board, take a trip to the school lunch department to watch the preparation of the menu items from the various food groups, and include a simple snack from a different group each day for a week at the mid-morning milk time. Carrot sticks, apple wedges, cheese cubes, small meat or peanut butter sandwiches, whole wheat crackers—all provided from the school lunch kitchen for this week of study—reap dividends in happy first relationships between the children and the nutritional aims in the Type A plate lunch at noon. This project is either begun or culminated with a visit and talk in the classroom by the school dietitian.

In the two second grades other approaches are used. One teacher makes the annual nutrition unit a cross section of various areas. Simple basic food principles are learned, then are followed by a menu-planning session in the school lunch department with the dietitian. The thirty children are divided into five groups, each of which must plan a menu to be served in the school lunch department with parents of the participating group invited to eat that day.

Two other steps take place in the second grade. Colorful posters depicting the whole plate fill the bulletin boards in the lunch department or frequently an arithmetic study in picture form—four beautiful Florida oranges on one line preceded by the number 4; two children each eating an orange on line two beneath, leave 2 oranges at the bottom. Sometimes Florida beef or cabbages or seafood are used instead of oranges. The imagination of the young artists and their names in rather conspicuous places both on the posters and on the printed menu itself make the parents also nutrition conscious. Health education is truly in action there.

The other second-grade teacher instills good manners as well as good eating habits as her children are taught to try new foods, discuss kinds of foods used in the menu, and leave their lunch tables and chairs in an orderly fashion.

Then there is the third-grade teacher who went from the biology unit on animal life and the food habits of animals into a unit on food for boys and girls. The state health nutritionist was the visiting speaker this time with her animal feeding slides. A field trip to a local food market to purchase the supplies for a simple lunch to which the mothers were invited brought some arithmetic into the picture when costs were counted. Colored slides were made of this unit, lists of new spelling words prepared, an introduction to menu planning, good manners, and simple food preparation all rolled into one.

Fourth-grade scrapbooks for each of the Four Groups and a fifth-grade nutrition play written and produced by the class for a parents' evening at the school were additional steps in the health education process which obviously strengthened better nutrition. Because spices were mentioned in a social studies lesson in another fifth-grade class, a taste-testing session was held and new salad flavors developed by the class for use in the school lunch department.

A sixth-grade planned an all-Florida menu in a social studies project with decorations for the day.

In the Upper Grades

When a seventh-grade study was underway on community services, a visit to the county health department resulted in the development of a sanitation check sheet for the school lunch department.

An eighth-grade class one year set up a credit union to handle funds for children who forgot their lunch money.

Both ninth- and tenth- grade homemaking classes at various times have investigated eating habits of their fellow students plus carrying out animal-feeding experiments which were reported to class groups at the elementary level.

Science classes find a wealth of materials in this active laboratory. Wheels, pulleys, temperature controls, the problems of hard and soft water, an opportunity to analyze the chemical composition of foods plus observe the effect of water or temperature changes on various foods, are but a few examples.

When the social studies teacher introduces a concern for the eating habits in people in the geographical area under discussion, she is laying the groundwork for nutrition study and thought. When she compares the food available to the early settlers of America with present day food supplies, she has a good opportunity to encourage some research into how the diet of that day did or did not meet the same body requirements as our food selections today. With so many more choices available today, a student may be made aware of the importance of careful selections.

The teacher may guide her students into pursuing investigations into the possible relationships between the accomplishments of a certain group of people and their food patterns. Are the food habits the same or different from our own? If different, why is it different—availability, climate, religious or cultural influence? How do the dietary constituents compare? Are there ways of checking various food patterns for adequacy?

The fact that the federal government in 1946 passed and has continued to renew a national school lunch act which provided some financial aid and surplus food products should be of some interest to social studies classes. Even a brief study of the reasons for and requirements of this program would be educational—as well as a practical tool for co-ordinating classroom learning and the practical aspects of the lunch department in the school.

In biology classes the study of animal life includes eating habits. How do basic animal diets compare with those of man? Is there at least a partial similarity? Can the student explain the reasons for the obvious differences? How do plants contribute to our nutritional needs? What parts of the plant do we

use? Co-ordinating the information available in textbooks and reference books with practices revealed by dietary surveys among students or menus served in the school cafeteria will make the study encompass the children's everyday experiences.

The science teacher can spend much time on various phases of nutrition. The chemical analysis of foods is interesting to most children. Even a young child in the first, second, or third grade is interested and proud to demonstrate the iodine test for starch when applied to vegetables, breads, etc. Call on the school lunch director for properties. Give her the satisfaction of contributing to the learning situation.

The effect of preparation methods on food chemistry, particularly efforts to preserve maximum food values, offers another interesting lead. Food preservation, whether by heat, cold, or more recently radiation, comes within the realm of science. The kinds of heat used in the school lunch department, whether gas, electricity, or steam, all involve scientific principles, too.

The language arts in food stories and histories; the debating values of such a subject as "Should we or should we not have a Type A plate lunch in our school?"; the communications demonstrated in the recipe cards, the order sheet, the invoices, the bookkeeping records found in a school lunchroom—all these aspects of nutrition make practical many phases of reading, writing, and reporting.

Since the whole student body uses the lunchroom, what a fine place it is to display art work. Also how many ideas for posters can be derived with food displays, charts, diagrams, etc., as subjects.

The physical education and athletic department can do much to emphasize good food habits and their beneficial results.

The food cost studies and analyses done by a trained dietitian can offer the mathematics teacher an endless source of practical problems. School lunches often make possible comparison of inexpensive and expensive adequate diets and comparison of food value graphs. Graphs become useful in the student's mind when he sees "living examples of them, such as circle graphs used to show" where your 30¢ goes (per cents for food, labor, paper goods). Bar and line graphs to show comparisons between food value of Type A and other menus in the school lunchroom are revealing and practical.

Educators can use their own imaginations to enlarge the field. Just remember that the school lunch department's business operation has a very limited budget. You need to have good communications with the school lunch director if you are to derive the most help with the least interference in her heavy schedule. Usually a trained dietitian or home economics teacher has at first more understanding of your aims. However, any manager will feel complimented to know that her department is considered a part of the school curriculum.

Anything that points up the laboratory or field aspects in the school lunch department makes it a more interesting place for students. A pleasant place is conducive to better eating habits. If there is little interest and much fault finding, analyze the situation in class. What are the aims of the program? Are they beneficial ones? Are they being met? How do they compare with those in other schools with which you are fa-

miliar? Make friends with the school lunch manager. She can "open your eyes" to both the problems and the learning potentials. Perhaps she has not recognized the latter herself and you can help her to see their value to you. If so, she will benefit as well as you and your class.

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BOOKS FOR YOUNG READERS

FARAWAY FARM. By Hilda Boden. N. Y. McKay. 1961. $2.95.

The Weatherby children are faced with the dull prospect of remaining in London after the death of their father. Then came an unexpected letter from Scotland. It was from a solicitor saying that a distant cousin had left them his farm in the Highlands. Giles and Sarah, the two older children, were all for setting out for Scotland immediately. Polly, the youngest, conjured up pictures of chickens and baby calves, flowers and brooks. But Robin, the younger son, vetoed the idea. The story is one that junior high school youngsters will thoroughly enjoy.

—Paul Zankowich

THERE'S SOMETHING ABOUT A RIVER. By Esther Chapman Robb. Illustrated by Everett Raymond Kinstler. N. Y. Duell, Sloan and Pearce. 1961. $3.00.

Davey Lee was certain the summer was going to be a dull one without fun and adventure. His mother was away and his father was hurt in an accident. The result was that Davey had to take care of the house and run the family boat-renting business. In addition, he had to take care of the river-light for the Coast Guard. But this turned out to be no dull or uneventful summer for the lad. Yes, there is something about a river in the summer time.—Paul Zankowich

HOT-ROD REPORTER. By Allan L. Johnson. N. Y. Duell, Sloan and Pearce. 1961. $2.95.

Mark Williams dreamed of his future and he aimed to become a celebrated newspaper man. His Uncle Will, who owned a paper, was not too impressed by the lad. Hot-rods and Julie took too much of the boy's time and his report card definitely showed this. When Uncle Will saw Mark hot-rodding one day, he called for the lad. An assignment was made. Mark pulled himself together and with his hot-rodding skill and his skill in photography, he succeeded in playing the major role in tracking down and capturing a group of criminals. A dashing story for junior high school folk.—Paul Zankowich.

BALLOONS FLY HIGH. By Lynn and Gray Poole. Illustrated by Richard Bergere. N. Y. Whittlesey House. 1961. $2.75.

For nearly 200 years balloons have been flying high in the sky. And on 12 August 1960 rockets carried a balloon into space, 1000 miles above the earth. There the balloon became a satellite. This book for youngsters from eight to twelve tells the amazing story of balloon and ballooning over the past two centuries. An excellent introduction to space science for young people.

—Paul Zankowich

The Structure and Function of The Human Body

ELIZABETH A. WILSON
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A general understanding of the body and how it works is essential if one is to act intelligently about health practices. Such desirable practices as choosing food wisely, securing sufficient sleep, and obtaining regular medical and dental care are more likely to be carried out if one is aware of the structure and function of various parts of the body, and of ways to care for them.

The modern approach to teaching about the body structure and function is quite different from that used in the past. Whereas health education in earlier years emphasized technical terminology and scientific minutiae, present-day procedures stress those aspects which relate directly to the promotion and maintenance of health. Thus, in teaching about the skeleton, less attention is paid to the names of particular bones than to the purposes they serve, factors favorable to their growth, and ways that bones facilitate body movement.

This approach to teaching body structure and function can be illustrated by describing health education relating to the eyes in grade I, in grade VI, and then in the high school.

In the First Grade

In the first grade, children are not taught technical facts about the eye. Rather, they learn from the basis of their own experience, the experience of having vision tested. Pupils learn that their vision will be tested to find out "how well they see." The test is usually the simple Snellen test combined with teacher observation. They learn how the test will be conducted. They discover that if one does not "see well," he may visit an eye doctor and have his vision corrected, usually with the aid of glasses.

Boys and girls in the first grade thus early develop desirable habits and attitudes toward the care of their eyes without ever knowing the scientific name for any part of the eye. They learn that vision should be tested regularly and that glasses can improve defective vision. They appreciate the help that physicians can provide to persons with faulty vision.

They realize that eyes, like other parts of the body, can become tired if used for too long a time. They know that good light is needed for reading or for coloring or for drawing. They learn the need for reporting to parents any difficulty they have in seeing and any symptoms of eye fatigue they may experience.

It is the goal of health teaching in the primary grades to form and reinforce desirable habits and attitudes toward body care. Parents and teachers work together in order to achieve these ends.

In the Sixth Grade

Boys and girls in the sixth grade, about eleven or twelve years of age, are full of questions about their bodies and how they function. It is possible to provide them with specific information on the structure and function of the eye, using books, charts, and diagrams as teaching aids.

For example, sixth-graders may begin the study of eyes and sight by learning about light, its sources and how it travels. They will need to know how light rays are reflected and absorbed by different types of surfaces and how their direction can be changed by such substances as water and glass. Then pupils may be introduced to lenses, convex and concave, and their effect on light rays. They can learn how a prism affects light and how the eye perceives color.

Now boys and girls are ready for the structure of the eye itself, its protective devices, the bony orbit, the eyelashes, eyelids and eyebrows, the layers of tissue over the pupil, and the pupil, iris, lens, retina, and optic nerve. They learn about the muscles of the eye. Only then can they achieve some understanding of the process of seeing.

Through questions and examples, pupils learn how the eye accommodates to conditions of dim and bright light and how it focuses on objects close by and far away. They understand why the human eye is so often compared to a camera, but they also appreciate its infinite superiority.

Boys and girls are interested in comparisons between the human eye and the eyes of animals, birds, and fish. They appreciate the various adaptations that have resulted to make eyes meet the needs of each type of animal.

Now boys and girls are able to understand the causes of farsightedness and nearsightedness. They learn how an oculist or optometrist can correct such defects by prescribing the proper lenses.

This background of structure and function provides reasons for the habits and attitudes already practiced and developed. Pupils know now why eye infections develop as a result of unclean habits. They know why poor light or excessive glare results in eye fatigue. They realize the need for regular eye examinations.

The aim of health education in the upper elementary grades is to help pupils learn the reasons for certain desirable health practices. A basic knowledge of structure and function helps pupils to think for themselves and to make considered judgments. Practices which are carried on because one knows and approves the reasons for them are much more likely to be effective than those which are based on only adult authority.

In the High School

At the high-school level, additional information may be provided about the eyes. Such information is necessitated by the approaching adult responsibilities of many high-school boys and girls. The increasing number of teenage marriages makes it inevitable that a considerable percentage of high-school students will soon become parents and assume the care of children. Health education at this age must provide the information needed by young adults about to become heads of families and members of the community.

High-school students need a review of the structure of the eye and the

mechanism of sight as well as guidance in applying this information to the maintenance of sight and the prevention of eye injuries. They need to know how eyeglasses can be used to correct myopia, hyperopia, strabismus and astigmatism, and why such glasses must be regularly checked by an oculist or optometrist.

They must be familar with the proper way to remove foreign particles from the eye and the need for prompt medical treatment for eye infections. High-school students should understand the danger of glaucoma and appreciate the need for its early diagnosis. They should know what is meant by cataract and realize that it can often be corrected by surgery.

Boys and girls of this age should be helped to develop desirable attitudes toward the use of safety glasses in hazardous situation, the need for periodic eye examinations and vision tests, and the protection of eyes from fatigue.

The purpose of health education in secondary school is met when pupils are provided with information needed to make intelligent decisions which will protect their own health and that of their families and communities.

Teaching Aids

There are numerous aids for teachers in the area of body structure and function at all grade levels. Every teacher will use one or more of these as lessons and units are developed. Among these aids are health textbooks, charts and diagrams, teaching films, resource persons, anatomical models, and health exhibits.

Textbooks in health provide a well-planned sequence of material at each grade level, guiding both pupil and teacher and establishing a base line of information and experience. Charts and diagrams are essential for any consideration of body structure. Textbooks are usually adequate in this respect. Films are valuable teaching aids if they can be used as an introduction or as a summary. Teachers are familiar with the various ways in which a film can be used most effectively.

Physicians, dentists, nurses, and others often serve as resource visitors during a study of the body and its care. Their time may be used to best advantage if pupils formulate in advance the questions they wish the resource person to answer or discuss.

Anatomical models are invaluable in teaching structure because they provide a three dimensional view of an organ that can not easily be obtained otherwise. Models which can be taken apart are of special worth. Often pupils will be able to visit a museum or other places where health exhibits are on display. These are helpful in providing other pertinent experiences. In some situations teachers can make available animal dissections in the study of anatomy. Frogs and rats are common subjects.

Certainly a general understanding of anatomy and physicology or the structure and function of the body is an essential part of health education. Individuals who have some appreciation for the marvels of the human body are likely to be those who will care for their own health and that of their families. They will be intelligent supporters of measures designed to promote community health. Through health education, they will have acquired the foundation of facts on which their practices and attitudes toward health can be built.

Helping Pupils to Learn About Sanitation

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THE term "sanitation" is as broad and all-encompassing as health itself. Its meaning has to do with the prevention of all disease conditions. Typical of phrases used to define sanitation are "the science of sanitary conditions," "measures to promote health and and prevent disease," "free from agencies injurious to health," "the preservation of health," and "the science and practice of effecting healthful and hygienic conditions."

Obviously, such a comprehensive term is difficult to employ with any clarity of meaning or precision of usage. In practice, it has come to mean the two general areas of personal and environmental sanitation.

Personal hygiene will continue to be of fundamental importance as a health measure. However, the pressures of atomic testing and an expanding population with accompanying urbanization make environmental sanitation increasingly important. The condition of facilities or buildings and the procedures necessary to insure safe water, milk, and food supplies to the public are of continuing importance. In addition, new threats to health must be met. According to the Report of the President's Commission on National Goals (1), "The study of environmental health measures should be increased. We need to mobilize our resources better to understand such problems as air and water pollution, radiation hazards, and food additives."

Since 1900, advances in medicine and wide acceptance of the necessity for personal sanitation have markedly lowered the incidence and severity of communicable disease. In this progress against epidemic diseases, students have traditionally been taught the importance of such matters as practical personal sanitation, clean buildings, chlorination of water supplies, and pasteurized milk.

New Problems

This content is still important and must be taught, but new problems have emerged. According to Dr. Burney, former Surgeon General, "Resource planners estimate that our demand for fresh water in 1980 . . . will be in the range of 600 billion gallons. To have an adequate supply of water will mean repeated use of the water we have. Pollution control is imperative (2)." Infectious hepatitis, a virus disease of the liver transmitted through the water supply, has been spreading steadily since World War II. According to the U. S. Public Health Service, it has reached a record high incidence this year. Couple that fact with the statement of Smolensky and Haar that "over 30 million Americans live in cities with

no water treatment facilities. Most cities have only primary sewage treatment plants, whereby there is only 30 to 40 per cent reduction in polluted material (3)."

Clearly then, our school curriculum in addition to material on personal hygiene and the rudimentary principles of community sanitation must include information on these serious new social problems. Man has survived by his ability to adjust to his environment. Now he must adjust his environment to survive. Our youth must be educated to accept their full responsibility as adult citizens to secure adequate sanitary standards in order to protect the nation's health.

As in any subject area, the development of an understanding of the concept of sanitation calls for effective teaching and curriculum planning. The teaching content must be carefully selected and must be presented in a related, sequential arrangement of learning experiences. The learning activity must be suitable in terms of both the child's maturation and experience. Caution must be exercised in avoiding gaps or needless repetitions in the curriculum if a continuous progression of learning is to be realized.

To broaden and deepen the student's understanding about the subject of sanitation, this illustration is an attempt to show how progression in teaching concepts from the primary level through senior high school might be developed. At each of the respective grade levels, a list of sanitation concepts has been selected. Progression occurs with the introduction of new concepts to be related to the old, or by building on a previously introduced concept by expanding and increasing its complexity.

Primary Level

Teaching at this level is largely associated with the child's experiences at school. He is guided through the daily routine of school activities in accordance with proper hygiene or sanitary practices. For example, he is taught the proper way to use the drinking fountain and to wash his hands before eating and after going to the toilet.

Some of the sanitation concepts taught at this level are:

I. Handwashing
   - A. Wash hands before eating and after going to the toilet
   - B. Use and dispose of soap, water, and towels properly
   - C. Wash hands after blowing nose

II. General Cleanliness
   - A. Bathe frequently
   - B. Keep hands, fingers, and foreign objects out of mouth, nose, ears, eyes, and face
   - C. Know how to keep hands, face, neck, ears, fingernails clean

III. Procedures with Colds
   - A. Blow nose properly—wash hands after blowing
   - B. Cover coughs and sneezes
   - C. Use clean handkerchief or tissue

IV. Clean Food
   - A. Reject food fallen to floor or ground
   - B. Transfer food directly from plate to mouth, never from mouth to mouth

Intermediate Level

At the intermediate level, the child is still concerned with personal sanitation (hygiene) but is introduced to the

concept of group responsibility for community health. The child assumes responsibility for reporting his illnesses to home or school authorities and learns to isolate himself when he is ill. He learns the proper use of public facilities and the role of the local public health department. He is encouraged to assume some responsibility for maintaining community health.

Some of the sanitation concepts taught at this level are:

I. Personal Hygiene
   A. Report symptoms of illness to mother or teacher
   B. Remain isolated (at home) at first sign of illness
   C. Avoid contact with those having communicable diseases
II. Use of Public Facilities
   A. Learn proper use of toilets and drinking fountains
   B. Swim only in safe, unpolluted water
   C. Drink water and milk from safe sources only
III. Knowledge of Conquest of Disease
   A. Learn ways that disease spreads
   B. Study the importance of cleanliness in care of wounds and abrasions
   C. Study controls of insects and rodents
   D. Study contributions of scientists such as Pasteur, Koch, Jenner, and Reed
IV. Introduction to Community Health
   A. Learn role of local health department in providing safe water, food, milk, waste disposal, and control of epidemics
   B. Accept individual responsibility in maintaining community health

Junior High School Level

The pupil at the junior high level is intensely aware of himself and his bodily growth and development. However, he is also keenly interested in the world of intellectual and scientific achievements. So his learnings in the field of sanitation range from the esthetic considerations of body care and grooming to an academic study of the procedures followed in safeguarding the milk supply. In addition to his own experiences, the pupil learns from the experiments and research of the past.

Some of the sanitation concepts taught at this level are:

I. Personal Hygiene
   A. Emphasize sanitary and esthetic aspects of body care and grooming
   B. Study proper care of skin, hair, and fingernails
II. Community Health Services in Maintaining Sanitary Standards
   A. Study procedures in safeguarding water supplies—filtration, sedimentation, chlorination, etc.
   B. Learn proper location and construction of private wells
   C. Study regulations enforced to insure safe food supplies—inspection of eating establishments, food stores, health examinations of food handlers, dishwashing methods, waste disposal, refrigeration of food
   D. Study procedures in supplying safe milk—health examination of cattle, sanitary inspection of cattle and barns, proper handling of milk, pasteurization, testing and refrigeration of milk

E. Study local school sanitation —heating, water supply, standards for lunch room, locker rooms, swimming pools, dressing rooms, general maintenance of buildings and grounds, and waste disposal

Senior High School Level

The adolescent student is deeply interested in the role he will play in his adult life, and the necessary preparations for it. At the same time, he feels a need to understand the things about him in the here and now. Therefore, he is interested both in career selection, and in the influences of his community upon his current way of life. He has a keen intellectual interest in future developments which can be satisfied only by factual information and research.

Some sanitation concepts taught at this level are:

I. Community Health Services
   A. Review sanitary procedures in providing safe water and the future problems caused by increasing population, etc.
   B. Review problems of water pollution (diseases associated with unsanitary water), emphasizing causation—population density, urbanization, industrial wastes, inadequate sewage treatment
   C. Study problems of sewage disposal—the system, methods of treatment and waste disposal

II. Air Pollution
   A. Introduce causes of air pollution, emphasizing the role of the automobile and domestic waste disposal problems

III. Radiological Health Hazards
   A. Study the types and effects of radiological health hazards and possible protection against radiation

IV. Protection of Food
   A. Learn provisions of the Federal Food and Drug Act and how it helps assure safe foods
   B. Study problems of protecting foods against chemicals

V. Careers
   A. Study careers related to sanitation—sanitary engineering, food inspectors, etc.

Finally, the success of the school in achieving its prime requisite of an informed public must rest with the teachers' ability to translate the curriculum. Teachers with an appreciation of these new problems and who are convinced of the need for greater understanding will assure the health of future generations.

Legislation cannot be passed and financial support for programs cannot be obtained if citizens are indifferent, irresponsible, or unenlightened. The local public health department, the local school, the local medical officer cannot achieve personal and environmental sanitation alone. Sanitation as a positive or preventive measure is dependent upon a responsible citizenry.

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The Promotion of Dental Health

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"KNOWLEDGE is not enough" is a recurrent theme in education. Over and beyond knowledge must be added attitudes, skills, and appreciations which will dispose learners to *act* upon the things they know to be true. In America's pragmatic society only the eating of the pudding will satisfy the patrons of education.

Health education is no exception—in fact, it is probably among the foremost of all school subjects in demanding action or the disposition to act on the part of the learner. It is only satisfactorily taught when students eat well, sleep well, refrain from using harmful drugs and narcotics, care for their teeth, exercise sufficiently, and in general make appropriate health adjustments regularly. Progress must be shown in fewer illnesses, greater longevity, fewer accidents, better teeth, and other statistical bases. Nothing less can satisfy the health educator.

Dental health education is built on the fundamentals of education for general health. It, too, seeks to communicate in the time-tested ways of health educators—through direct instruction, through tests and measurements to determine present status and future progress, through co-operation with community agencies, through emphasis on personal responsibility for present and future needs, through programs in guidance based on personal and social development. It attempts to inculcate basic scientific concepts which will serve as guides to intelligent analysis of dental health needs and to the rejection of fads, frills, nostrums, and various harmful practices.

Some elementary school teachers have found that memorization of dental health rules, singing dental health songs, presenting plays and skits, charting personal habit patterns, and other such methods have not been wholly effective in teaching dental health. As a result, other methods involving correlation of dental health objectives with the subject matter of physical and social science and integration of dental information within a core project such as "Community Health" have been utilized. These methods, though not replacing the other techniques completely, give greater promise of attaining the fundamental objectives of dental health education.

Typical Examples

To illustrate this newer approach to dental health education, let us select a project in a second-grade classroom in a typical school. The class has decided to discuss what is known about teeth. Under the skillful guidance of the teacher the children inductively produce tentative answers to questions such as:

1. What are teeth *for?*
2. Why do people visit the dentist?
3. When and how should we brush our teeth?

4. What effect do foods have on our teeth?

After the initial discussion, committees are formed to explore these basic ideas further and to plan evaluations, a "summing up" party, and various instructional techniques, including a skit, direct reports, and a bulletin board. Throughout the dental health unit the well-developed curiosity of class members is used effectively to stimulate a scientific study of the provable facts about dental disease and its prevention.

At the secondary level, and in the junior high school, the scientific facts of dental disease should be emphasized. But students approaching young adulthood are motivated by the cosmetic importance of dental health; they are interested in costs of dental care; they are concerned with their own dental health and their responsibility, as future parents, for their children's dental health. Projects in dental health education must supply answers for problems arising in these areas.

In a successful dental health project for health, home economics or other classes, the students might look for answers to these questions:

1. What are some problems of "getting along with others" involved with oral hygiene?
2. Are my personal preventive methods effective in promoting a healthy mouth?
3. What is good consumer education in dentistry?
4. What are some scientific facts about oral bacteria, nutrition and dental health, the physical structure of the jaws, dental nostrums?
5. How does a community obtain adequate dental care?
6. How can we scientifically evaluate fluoridation of water as a preventive of tooth decay?

An effective method of motivating a class to become vitally interested in some of these matters has been recently developed. Using this method, a class examines tooth scrapings under a microscope to see bacterial activity. Then, with the aid of a disclosing solution designed to stain accumulated dental debris vividly in order to provide for its easy detection, class members will soon learn how effective or ineffective their personal dental habits are.

Screening Materials Used

In working on problems in dental health, teachers and students will find a great need to establish the scientific accuracy of dental information, to make appropriate field visits, to obtain written materials, to see slides and films, and to conduct surveys and interviews. In many of these activities, they will find it profitable to obtain help from local dental societies. These organizations usually have dental health education committees to serve schools and encourage effective patient education.

Educators often find that materials obtained from sources outside the school are for many reasons not suitable to the curriculum objectives of the school. There is a need, therefore, for co-ordination and screening of the distribution of dental health education materials as well as materials in other health subjects. Leadership should be sought from health agencies or professional societies to insure that co-operative planning produces and brings into the school curriculum only those materials that are:

1. Readable.

2. Appropriate for various grade levels.
3. Concise.
4. Tastefully illustrated and designed.
5. Scientifically accurate.
6. Produced as a public service.

School officials should participate in community health councils or other committees which screen health education materials with the above criteria as a standard for analysis.

Community Participation

Because so much of dental health education is based on community activities as well as instruction and program within schools, continuous participation by representatives of school faculties on community health councils is highly desirable. Beside bringing order to materials production and distribution, a health council can iron out many problems in the health field, such as:

1. Excusal policy for medical and dental appointments.
2. Administration of medical and dental examinations and inspections.
3. Progress studies on community health.
4. The need for accurate exchange of information on contagious disease, innoculations, water supply, sanitation, fluoridation, and other health matters affected by community attitudes and official policy.

Since dental inspections or examina-

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tions have much to do with the curriculum in dental health, it is well to look more fully at their administration. As conducted in many schools, the dental inspection contributes little or nothing to the enrichment of the dental health curriculum. To make it more effective, an inspection should be conducted with the following standards in mind:

1. It should be made by a dentist using mouth mirror and explorer and adequate illumination to obtain accurate data.
2. It should bring about further examination, when indicated, in a dental office using radiographic equipment. Parents and children should realize that such an individual examination is highly desirable and that mass inspections cannot replace complete individual examinations.
3. Classroom studies of examination and inspection results should be made to provide meaningful motivation for individuals to learn more about dental health.
4. If properly recorded, inspection and examination data should establish a baseline to indicate future progress or regression in dental health.
5. An inspection should encourage preventive measures, including proper toothbrushing, appropriate diet, limitation of caries-producing sweets, regular visits to the dentist, and fluoridation of water supply.

If they use some of the procedures of dental health education indicated, faculties can be assured that many of the goals outlined earlier will be attained. An individual who learns through the efforts of an effective teacher to care for his own dental health and the dental health of the family he will have in years to come owes that teacher a deep debt of gratitude.

IMPORTANT CONFERENCE ON NATIONAL SECURITY

The United States Military Academy has announced that the thirteenth Student Conference on United States Affairs (SCUSA) will be held at the Academy at West Point, N. Y., starting December 6. Over two hundred college student leaders, representing nearly ninety colleges and universities in all parts of the country, will attend the three-day affair.

The topic of discussion at this year's conference will be "The National Security Policy of the United States: The Atlantic Community." The keynote speaker will be the Honorable John J. McCloy, former High Commissioner to Germany and until recently the President's advisor on Disarmament. He will address the group on Wednesday, December 6. The subject of his address will be "The Goals for the Atlantic Community."

Other outstanding speakers and moderators will guide the delegates during their round table discussions. They include General (Ret.) Cortlandt Schuyler, former Chief of Staff to the Supreme Allied Commander in Europe, and now the Executive Assistant to the Governor of the State of New York; Dr. James A. Perkins, Vice President of the Carnegie Corporation in New York; and George C. McGhee, Counselor and Chairman of the Policy and Planning Council, Department of State.

Discovering Persons in Fiction

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"LAST semester we studied *Silas Marner*, the semester before that *Julius Caesar*. In the previous year the class studied *David Copperfield* and *Treasure Island*."

This may be true, Mr. English Teacher, did your classes study literature?

I don't question the literary value of the works you have mentioned. I ask you only the question I asked myself a few years ago: Is teaching *Silas Marner* necessarily the same as teaching ordinary literature?

My answer was *no*. Here's why:

Students, years after they have studied a classic, recall the effort put forth to acquaint them with the particular classic, but they seldom relate this effort to the other reading they do. In fact, they often question the value of spending so much time in talking about a single book.

So do I.

It is, in my opinion, a waste of time to spend weeks in the discussion of a single work of literature if, when the task is finished, the only result is a more intimate knowledge of that work.

There is a real value, however, in the careful study of *Silas Marner* or *David Copperfield*. But that value lies primarily in the improvement of the student's ability to read with understanding other books he may encounter on his own.

This should be logically apparent, but I am convinced that such logic has not generally been applied to the teaching of literature. Too often a single work has been taught—or talked about—but *literature* has *not* been taught in the process.

Character Study

Whatever is discussed or presented about *Silas Marner* should be directed toward the understanding of other novels students will read. A major consideration in the study of *Silas Marner* is bound to be character analysis. In this area, above all, knowledge gained in the study of *Silas Marner* should be capable of application to the reading of other pieces of fiction.

Over the past few years I have developed a set of clues to guide my students in the analysis of character. They are clues that relate character analysis in fiction to character analysis in life. I call them my means for "discovering persons in fiction." These are the clues:

1. Personal appearance.
2. Actions of the character, including his speech and manner.
3. Gossip: what others say of the character.
4. Reactions: how others act toward the character.
5. The character's thoughts.
6. What the author tells us about him directly.

Each of these clues can be suggested by members of the class in a discussion

of detective methods to be used in the case confronting the detective—the reader. Naturally, the teacher will make sure the list is complete, but the class members will benefit from using their own imaginations to develop the list.

Discussion may begin with the question, "How do you decide what kind of a person a new student in school really is?"

The process that begins with the answers to this question not only brings forth most of the clues above, but it usually causes the students to weigh the fairness or injustices of some of the methods they regularly use to form opinions about strangers.

Some Pitfalls

Each of the clues listed carries with it certain traps into which the reader may fall if he accepts the clues at face value. The students should discover in class discussion that all clues must be weighed together in forming judgments and that sometimes first inspections are misleading.

The appearance and actions of Silas Marner when he first comes to Raveloe are misunderstood by the people of the village. Readers are given explanations by the author to understand Silas. Students will not make the mistake the good citizens of Raveloe make.

But what of the reader's impressions of these citizens themselves? Here the student may find that, in searching for villains, he has leaped to the wrong conclusion about the character of an entire village. He may be led to reflect that he has made just such incorrect judgments of new acquaintances in the past.

A character's actions, speech, manner, what others say about him, and how others act toward him may all contrib-

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ute to false impressions, in literature as in life. But the reader may also know the character's thoughts—which one never knows in real life about anyone but himself—and the author may make direct statements about the character which have their own definite authority.

Have the students missed any of these clues? Frequently they are the most important of all because they offer motives for actions, digging deep into the nature of the character. In a Shakespearean play the author never presents direct comment of his own, but in soliloquy characters often reveal their thoughts.

How closely have the students examined the implications of the soliloquies of Brutus, of Caesar, and of Antony? To pass over these speeches lightly is to ignore vital messages from the author.

The Method

Before beginning the study of fiction in class, the teacher should review in group discussion the methods of discovering persons—discovering the real nature of the characters.

During the progress of later discussions of material read, clues may be reviewed and examples found for each kind of clue. Having the specific words of a clue read aloud will help to alert each member of the group to significant passages he may have missed in his own reading.

Using test questions aimed at reviewing these clues will help remind students of the importance of these passages and will reinforce the reading attitudes being developed.

Although the entire process need not be repeated with new material, clue-finding detective work should be continued throughout the course. Book report outlines should specifically require students to list specific examples of character indication. All class reading should contribute to the formation of habits that will become an automatic part of independent reading.

Writing assignments, too, should incorporate references to systematic character analysis. An awareness of the methods authors use to reveal characters will contribute much to student writing of short stories, character sketches, and biographical essays.

Discovering persons in fiction is, of course, not all of literature study. The same techniques of systematic analysis may be applied to theme, plot, setting, mood, and other aspects of appreciation of fiction. Through group discussion, the students themselves can discover the techniques of interpreting the author's clues accurately in all of these areas of literature.

Reading and studying a good book in class is a worthwhile task. But such reading should be systematically directed toward the study of techniques used by all writers to tell their stories. Thus may the study of a piece of literature become the study of literature.

Genius, in truth, means little more than the faculty of perceiving in an unhabitual way.

—William James, *The Principles of Psychology*

A Study of Pupils' Interests, Grades 9, 10, 11, 12*

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THIS article, which deals with *vocational* and *educational interests,* is the third installment of a report based on a cooperative project carried on between Northwestern University and the Office of Education, U. S. Department of Health, Education, and Welfare. The first installment, dealing with *TV, radio,* and *movie interests,* appeared in the September issue. The second installment, dealing with *play* and *recreation interests* and with *reading interests,* appeared in the October issue.

Vocational and Educational Interests

An inquiry was made concerning vocational and educational interests, preferences, and activities of the pupils. Table XLI presents the vocational choices of the boys and girls in the two groups. In grades 9 through 12, engineer was the boys' first choice, followed in second place by the Armed Forces. Nurse, secretary, and teacher appeared as the girls' first three choices in the two corresponding groups.

TABLE XLI
Vocational Preferences of Pupils in Grades 9 through 12
(87% return)

Boys	Per Cent	Girls	Per Cent
	Grades 9 and 10		
Engineer	16.1	Nurse	16.9
Armed Forces	8.1	Secretary	15.7
Scientist	7.6	Teacher	14.5
Mechanic	6.4	Airline Stewardess	4.4
Architect	4.7	Model	2.8
	Grades 11 and 12		
Engineer	12.4	Secretary	22.8
Armed Forces	8.3	Teacher	21.0
Businessman	5.7	Nurse	12.8
Mechanic	4.7	Clerical work	8.2
Teacher	4.7	Beautician	4.6
Scientist	4.1		

In Table XLII, the percentages of pupils who stated that they were working are set forth. In Table XLIII the jobs reported are indicated as well as the per cent of the respondents who named each job. The boys in grades 9 and 10 engaged in several activities; delivering newspapers was most frequently cited. The girls in grades 9 and 10 mentioned baby-sitting most frequently. In grades 11 and 12, stockboy was cited first by boys, selling by girls.

*Special credit is due Robert A. Sizemore, Paul Kinsella, Ann Coomer, Stanley Krippner, and Eva Bednash for their efforts in helping to collect and check the data used in this article.

TABLE XLII
Per Cent of Pupils Who Hold Part-time Jobs
(97.1% return)

	Grades 9 and 10			*Grades 11 and 12*	
	Boys	Girls		Boys	Girls
Yes	18.0	16.9	Yes	37.9	30.4
No	82.0	83.1	No	62.1	69.6

TABLE XLIII
Jobs Held by Pupils in Grades 9 through 12

Boys	Per Cent	Girls	Per Cent
	Grades 9 and 10		
Paperboy	32.0	Babysitting	58.1
Drugstore	10.0	Clerk	25.6
Stockboy	4.0	Housework	9.3
Delivery boy	4.0		
	Grades 11 and 12		
Stockboy	15.3	Selling	30.7
Salesman	9.4	Office job	10.7
Drugstore	8.2	Babysitting	8.0
		Waitress	8.0

Questions were asked concerning plans and preparation for college. From this study, a phenomenon of American life—the general desire to attend college—is revealed. In Table XLIV, it may be noted that over 78 per cent of the boys stated that they planned to go to college.

TABLE XLIV
Per Cent of Pupils in Grades 9 through 12
Who Plan to Attend College (95.3% return)

	Grades 9 and 10			*Grades 11 and 12*	
	Boys	Girls		Boys	Girls
Yes	78.5	73.4	Yes	78.3	63.9
No	21.5	26.6	No	21.7	36.1

Interesting are the percentages of parents who according to the pupils' statements were planning to send their children to college. The majority of parents stated that they were planning for this fulfillment. Thus, one may note a conspicuously changed attitude toward college attendance from that which prevailed earlier in the United States. These data are set forth in Table XLV.

TABLE XLV
Per Cent of Parents Who Want Their Children to Attend College
(94.1% return)

	Grades 9 and 10			*Grades 11 and 12*	
	Boys	Girls		Boys	Girls
Yes	94.1	88.4	Yes	90.0	78.8
No	5.9	11.6	No	10.0	21.2

The pupils were questioned concerning whether they planned to attend a school for business or special training. Table XLVI presents the results.

TABLE XLVI
Pupils in Grades 9 through 12 Planning to Attend Business
College or Special School (84.2% return)

	Grades 9 and 10			*Grades 11 and 12*	
	Boys	Girls		Boys	Girls
Yes	34.2	41.0	Yes	32.7	36.2
No	65.8	59.0	No	67.3	63.8

Some of the pupils probably interpreted the question about going to a special school as an inquiry concerning whether they intended to continue their education beyond high school by attending a junior college, a business college, or schools offering training in mechanics, in modeling, and in business.

Inquiry was made concerning the subjects the pupils were taking in school and the subjects liked best and least. Table XLVII gives the five best-liked subjects for each group. And Table XLVIII gives the subjects in which the pupils said that they received their best marks. It is striking that the subjects liked best are usually the ones in which the pupils received their best marks.

TABLE XLVII

Best-Liked Subjects of Pupils in Grades 9 through 12 (95% return)

Boys	Per Cent	Girls	Per Cent
	Grades 9 and 10		
Mathematics	39.0	English	29.4
English	16.9	Mathematics	22.1
World History	10.7	Biology	10.5
Civics	8.8	Geometry	5.0
Biology	8.8	Spanish	5.0
Science	7.0	Art	4.6
	Grades 11 and 12		
History	16.4	English	14.7
Mathematics	15.5	Typing	14.3
English	10.0	Mathematics	11.3
Science	8.2	Spanish	7.6
Chemistry	4.6	History	7.1
Physics	4.6		

TABLE XLVIII

Subjects in Which Pupils Reported Best Marks Received

Boys	Per Cent	Girls	Per Cent
	Grades 9 and 10		
English	35.6	English	37.3
Mathematics	19.8	Mathematics	14.2
Algebra	16.2	Algebra	11.5
History	16.2	Homemaking	9.6
Science	10.8	Biology	8.8
Biology	9.0		
	Grades 11 and 12		
History	24.9	English	30.5
Mathematics	24.9	Typing	15.5
English	19.8	Mathematics	13.8
Science	13.4	History	13.4
Chemistry	6.5	Spanish	8.4
Algebra	4.6		

Concluding Statement

The results of the study are similar to others in demonstrating the popularity of TV above other media of mass communication. Indeed, TV appears as the favorite leisure activity of children, youth, and adults.

The writer has reported a series of studies of TV each year since 1950. It was found that 43 per cent of elementary school pupils in the Chicago area reported in 1950 that they had TV sets at home. The per cent having sets rose rapidly year by year. In the present investigation, 99 per cent reported sets

at home. And more than 35 per cent indicated that they had two sets. About 3 per cent stated that they had color TV. Thus, we have reached a saturation point insofar as TV sets (without color) are concerned. The trend is now two sets or more in every home!

Despite the appeal of the mass media, boys and girls still find time to participate in a number of outdoor activities. Boys play baseball and football, swim, and ride bicycles; and girls ride on sleds. However, less frequent participation than that reported in earlier studies appeared in some activities such as playing marbles, fishing, hunting, hiking, flying kites, and picnicking. There may be a slight reduction too, in hobbies involving outdoor participation now reported as compared with earlier times.

The students in this investigation appear to be somewhat more realistic in their occupational preferences than pupils in studies made a decade or more ago. This was shown in the selection of a relatively small number of occupations by most of the boys and girls—occupation which hold possibilities of absorbing many people today. Girls mentioned more frequently than in earlier studies such occupations as teacher, nurse, and secretary. The boys today frequently chose engineer and scientist.

One of the most interesting and significant facts revealed by this study is found in the very high percentages, both of boys and girls, who stated they planned to go to college. Seventy-eight per cent of the boys said that they were planning to attend college. And higher percentages of the parents stated that they wanted their children to go to college. A college education for his children is clearly the dream or hope of the typical American parent today.

Another noteworthy finding is the close relationship between the subjects liked best by the pupils and those in which they received their highest marks. The close relationship suggests the importance of a favorable attitude in determining a child's successful school endeavor.

The results of this investigation in the field of reading are provocative. Thus, we find that while the mass media consume two or more hours daily, reading is accorded only about an hour each day by these pupils.

Most of the books reported by these pupils fell in the category of fiction; poetry, essays, and drama were less often read. Stories of famous people were best-liked in the non-fiction group. The most popular books of the boys fell under the headings of adventure and mystery. Many boys were attracted to science fiction, too. Girls turned more frequently than boys to stories involving romance.

In this study there was frequent citation of superior series books such as the *Landmark* series and *Teen-age Tales* with occasional mention of paperback books.

Magazine reading for the older pupils was limited largely to *Life, Look, The Saturday Evening Post,* and news periodicals.

Collectively, these data present a picture of children and youth today surrounded by intriguing mechanical devices and opportunities for "purchased" vicarious recreation. Throughout the entire investigation of interests, the influence of standardizing forces and the power of the ubiquitous mass media were reflected. The reader may question whether the present pattern of interests of these pupils is not too heavily

weighted with activities associated with the mass media—particularly TV.

The antidote to the undesirable aspects of TV and other mass media, as well as to other standardizing influences, lies in the provision of a constructive program of guidance. Below are a few suggestions which parents and teachers might follow to advantage in working to improve not only televiewing but the child's total pattern of interests and activities.

1. Examine the recreational opportunities of your school and of your community. Try to offer boys and girls abundant opportunities for varied play activities and for creative pursuits of many kinds that will balance their craze for sedentary activities.

2. Use child study approaches at home and in school to understand children and their needs. Find out the programs children and youth are seeing on TV and the amount of time they are giving to TV, the radio, and the movies. Discuss the merits and limitations of favorite programs. Investigate the extent to which children and youth take part in other leisure activities. Study the amount and nature of their participation in outdoor activities. Offer constructive suggestions so as to bring about balanced programs of recreation.

3. Discuss strong interests and relate them to hobbies or creative pursuits, whenever possible. Set up a family or school council to suggest effective ways of budgeting time. Develop criteria for the selection of TV programs and for engaging in other leisure activities. Offer individual guidance in recognition of the uniqueness and varied needs of each pupil.

4. Keep in mind the fact that some of the satisfactions obtained from TV are similar to those derived from the movies, the radio, and comic books. Find out the amount of time pupils devote to each activity and the types of presentations they select. Try to offer constructive individual and group guidance.

5. Strive to improve the offerings on TV and the radio. There is a unique opportunity for parents and teachers to participate in a widespread movement aimed at the presentation of better TV programs. Talk over with pupils the ratings given to TV presentations by various magazines.

6. Help students to develop more efficient reading habits and skills so that they will enjoy the act of reading as well as the results. Become well acquainted with literature for youth. Try to provide an assortment of reading materials to satisfy and extend wholesome interests.

In home as well as in school, parents and teachers should strive to provide an atmosphere conducive to wide reading. Although the mass media are not often the sole cause of poor reading, they do offer a real temptation for children who read poorly to escape into a pleasant, effortless pastime. For other children, televiewing may consume too much of their time.

To offset the threat of the mass media to reading, both parents and teachers can make positive contributions. Parents can help by setting a good model for children to emulate. If they turn frequently to books for information and pleasure and if they read children's stories aloud and show a liking for books, their children will probably conclude that it is worthwhile to read and will in turn learn to enjoy reading. If parents plan family recreational programs

that include reading, televiewing, and other activities, children will be led increasingly to assimilate TV in well-balanced and individually suitable patterns of leisure activity. If TV programs are discussed as a basis for the selection of books, children undoubtedly will read more. And if parents and children together plan and build home libraries and go to the public library together, the possible ill effects of TV will be further offset.

BOOKS FOR YOUNG READERS

SCIENCE AND MUSIC. By Melvin Berger and Frank Clark. Illustrated by Gustav Schrotter. N. Y. Whittlesey House. 1961. $3.75.

Young musicians will find this book a very unique story. The authors do not look at music from the viewpoint of composers and performers. Rather, their approach is that of the scientist. They explore the exciting world of musical instruments, from tom-toms to hi-fi, in terms of the many branches of science. Principles of physics and of chemistry are shown to be basic to the production of sound. Nor is the human voice excluded in the presentation. The line drawings, some eighty of them, augment and dramatize the text.—Paul Zankowich

FROM THIS TO THAT. Story by Keith W. Jennison. Pictures by Kathleen Elgin. N. Y. McKay. 1961. $2.95.

The concept of change and growth is the core of this book for very young children. How things grow and what they grow into are topics developed in relation to humans, animals, and inanimate objects.

—Paul Zankowich

MARLOWS AT CASTLE CLIFF. By Hilda Boden. N. Y. McKay. 1961. $2.50.

Hilda Boden has written an intriguing book for youngsters of the middle grades in *Marlows at Castle Cliff*. Mrs. Boden now resides in Pembrokeshire and she knows the Welsh country well. The Marlow family joins in tracing the family of a young American and would have accomplished the task without incident had it not been for the ill-natured Josias.—Paul Zankowich

WHIRLING WINGS. By John J. Floherty and Mike McGrady. Philadelphia. Lippincott. 1961. $3.00.

Youngsters from eleven to sixteen will find this book interesting and informative. The volume presents the history of the helicopter and gives both techniques of flying this unique machine and the uses that man has found for it. It may comes as a surprise to many that the first practical design for the helicopter was made by Leonardo da Vinci. The machine he designed had to wait until a light enough motor became available. This did not come until 1941 when Igor Sikorsky realized da Vinci's dream.—Paul Zankowich

HAPPY RANCH. By E. C. Reichert, Dorothy Kendall Bracken, and Christine Rockefeller. Philadelphia. J. B. Lippincott. 1961. $1.95.

Here is an easy-to-read story for youngsters of six and seven. It is the story of Tim, a happy active boy who lives with his mother and father and his sister, Ann, on Happy Ranch. Life on the ranch is colorfully described. An excellent book for beginning readers.—Paul Zankowich

LIGHT ALL AROUND. By Tillie S. Pine and Joseph Levine. Illustrated by Bernice Myers. N. Y. Whittlesey House. 1961. $2.50.

This is another in the fascinating series of "science all around us" by Tillie S. Pine and Joseph Levine. This book, like its fellows in the series, is designed for young scientists from seven to eleven. Moonlight, sunlight, and electric light are discussed in this very informative little book.—Paul Zankowich.

Visual Functioning in Reading Disability

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ALTHOUGH a great deal of research has been conducted to correlate visual and reading problems, the literature reveals few clear-cut answers. It may certainly be said that the usual type of reading requires satisfactory visual functioning. However, attempting to state the exact visual difficulties which affect reading and the degree of correlation of these individual visual functions with reading disability is not the right approach.

In a process as complex as reading, visual functioning is probably not subject to isolation into individual factors that are independently significant. Certainly a serious impairment of any particular visual function will disrupt visual efficiency, but often it is the more subtle co-ordination of visual factors which is disrupted and may contribute to reading disability.

Research shows that reading disability is a complex problem and usually has multiple causation. Visual disability is only one of these possible causes. In an individual reading disability case, the role of visual disability may be major or insignificant. This has lead to conflicting research results on the importance of visual functioning to reading.

It is not the purpose of this paper to review the conflicting research nor to pick out samples of studies which substantiate the author's point of view. This author wishes only to point out that improvement of visual functioning is not the single cure for all cases of reading disability but that evaluation of visual functioning cannot be neglected as a possible contributory factor in any reading disability case.

This evaluation of visual functioning requires a co-ordinated effort by the reading specialist and the vision specialist. The reading specialist must have adequate information available about a child's vision in order to consider visual functioning as a factor in the reading disability. This necessitates the best possible means of communication between the vision specialist and the reading specialist. The basic purpose of this study is to better this line of communication by providing a visual report form containing the visual information needed by the reading specialist.

Analysis of Reading Center Record Files

The initial phase of this study consists of an analysis of the visual information in the record files of the Reading Center at Michigan State University. It can be considered that this center is representative of many reading centers throughout the country.

The children referred to the center consist of two groups. The largest group is comprised to those who are given a comprehensive battery of tests to diagnose the reading disability. The second

group is made up of those children who are tutored at the center. The tutoring program, which is primarily carried out in the summer, is designed to be a learning experience both for the disabled readers and for the tutors who are taking advanced university courses in reading disability.

A record folder is kept for each child who is served by the center. As a part of the testing procedure the Reading Center usually administers the Bausch and Lomb School Vision Tester screening series to each child. In this study the record files of all children seen at the Reading Center between June 30, 1959, and February 9, 1961, were examined.

Altogether during that period two hundred children were tested for diagnosis of reading disability and ninety-eight were tutored. The potential sources of visual information concerning these children in the record folders are letters from vision specialists, informaon the form filled out by parents, and the results of the School Vision Tester screening.

Analysis of this information reveals the following figures. Of the 200 children tested at the center, 65.5% were screened by the School Vision Tester. 42% of those so screened failed. Of the 98 children who were tutored at the center, 23.5% were screened by the Vision Tester and 30.4% of those failed. Of the total 298 children studied, 51.7% were screened by the Vision Tester and 40.3% of those screened failed.

Only eleven reports from vision specialists are found in the two hundred and ninety-eight folders. Almost all of these contain only a small portion of the information necessary. Thus, while any sort of visual report is available for only 3.7% of the children there are 40.3% of those tested on the School Vision Tester who failed. This is a distressing situation.

The School Vision Tester contains only tests of distance acuity in each eye, plus lens test in each eye, distance phoria, and near phoria. Like all screening devices this instrument is able to check only grossly a small percentage of the potential sources of visual disability. The true percentage of children with a probably visual disability would almost certainly be much higher than the already alarming 40.3%.

This information suggests the advisability of a complete visual analysis by a vision specialist as a prerequisite to being seen by the reading specialist. An adequate report from the vision specialist should be made a permanent part of the child's record at the reading center.

The results of this study indicate that visual disability may be a more serious problem in reading disability than some previous research has shown. Regardless, it would seem only reasonable that this potential source of difficulty should be evaluated in all cases of reading disability. Then the expert services of the reading specialist can better be utilized in aiding children handicapped by reading disability.

Visual Report Form

There is no adequate specialized visual report form for disabled readers. The importance of vision to reading warrants a form more comprehensive than the usual student visual report forms. The following form is an attempt to fill this gap. It is not meant to be the ultimate answer in communica-

tion between the vision specialist and the reading specialist; this form is presented to provide something concrete for present use. A more important goal is to stimulate interest and research in this area leading to future improvement.

The report form will soon be supplemented by a manual. This manual will discuss briefly each of the visual functions included on the form and explain how a deficiency in each function could adversely affect reading.

READING CENTER VISUAL REPORT FORM

Name _____
Address _____
Age _____
Grade _____
Date last examined _____
Date should return for further care _____

Circle appropriate statements:
A. New lenses prescribed
B. Lenses not indicated
C. Old lenses satisfactory
D. Visual training prescribed
E. Other (specify)

Glasses should be worn: (If other than constantly mark each task Yes or No.)
Constantly _____ Classroom _____ Distance _____
Close work _____ Movies, TV _____ Playing _____

Unaided visual acuity	Aided visual acuity (Best possible correction)	Health of Eyes
1. Distance _____ feet R. E. _____ L. E. _____ Both _____	3. Distance _____ feet R.E. _____ L. E. _____ Both _____	5. Normal _____
2. _____ inches (Specify) R. E. _____ L. E. _____ Both _____	4. _____ inches (Specify) R. E. _____ L. E. _____ Both _____	6. Abnormal (Specify) _____ _____

The following results were obtained through the best possible correction.

Tests 6, 7, 8, 9, taken at _____ feet

6. Lateral phoria _____
7. Vertical phoria _____
8. Lateral ductions
   Adequate _____
   Inadequate _____
   Borderline _____
9. Vertical ductions
   Adequate _____
   Inadequate _____
   Borderline _____

Tests 10, 11, 12, 13 taken at _____ feet

10. Lateral phoria _____
11. Vertical phoria _____
12. Lateral ductions
    Adequate _____
    Inadequate _____
    Borderline _____
13. Vertical ductions
    Adequate _____
    Inadequate _____
    Borderline _____

14. Amplitude of accommodation (in diopters)
    R. E. _____ L. E. _____ Both _____
15. Near point of convergence _____ inches
16. Monocular fixations
    Adequate _____
    Inadequate _____
    Borderline _____
17. Monocular pursuits
    Adequate _____
    Inadequate _____
    Borderline _____
18. Binocular fixations
    Adequate _____
    Inadequate _____
    Borderline _____
19. Binocular pursuits
    Adequate _____
    Inadequate _____
    Borderline _____
20. Dominance
    Eye _____
    Hand _____
21. Ability to change fixation
    Distance to near: Adequate _____
    Inadequate _____
    Borderline _____
    Near to distance: Adequate _____
    Inadequate _____
    Borderline _____
22. Color vision
    Normal _____
    Abnormal (Specify) _____
    _____
23. Visual fields
    Normal _____
    Abnormal (Specify) _____
    _____
24. Depth perception
    Good _____
    Poor _____
    Borderline _____

25. Optimum reading distance for this child _____ inches
26. Other information you feel might have a bearing on this child's reading disability _____
27. For aided visual acuity less than 20/20 or any "abnormal" or "inadequate" test results, discuss cause and prognosis: _____
28. What effect do you feel this child's visual condition will have on his ability to read?

Signed _____
Address _____

Date _____

Reading Center Visual Testing

Certain visual and perceptual tests can advantageously be administered by the reading specialist. When an adequate report from a vision specialist is available the reading specialist need not give a visual screening test. If the visual status of the child is not known, then a visual screening test should definitely be administered. There are several instruments which will do this.

It must be remembered, however, that these instruments provide a gross screening of only a few of the important visual factors. They definitely do not replace a complete report from a vision specialist. Rarely should visual screening be necessary by a reading center because an adequate current visual report from a vision specialist should be an automatic part of every disabled reader's record file.

One of the important functions of a reading center is to provide data for research. Much future progress in the area of reading disability will depend upon the availability of this data. There are many visual and perceptual functions which have a strong relationship to reading, but present evaluation methods are not adequate. At the present time few conclusions can be drawn from the evaluation of these functions. However, if the results from several hundred disabled readers were available for careful scrutiny perhaps valuable new evaluative techniques could be devised. Tests of the following visual and perceptual functions are suggested.

1. Photographic record of eye movements. This area has been studied extensively with variable results but would seem to warrant more exploration.

2. A visual perceptual evaluation test such as the Winter Haven visual copy forms test. Studies have not shown high correlations with reading, but one could question the scoring and evaluation methods rather than the basic correlation.

These are only two of many tests which might be given. They are only a suggested start. Tests of the "draw a man, draw a picture" type might very well be administered providing a psychologist or other trained person is available to evaluate the results.

Any test that has real possibility of leading to fruitful research is worth administering. Obviously, available time must be considered, but it cannot be overemphasized that much of our future progress in the area of reading disability will arise from the data accumulated by reading centers.

Who Will Go To College In 1975?

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For some years we have been hearing and reading about the population boom and how it will engulf our colleges in the next decade or two. Unfortunate catch-words such as "swamped," "impending crisis," "inundation," "hordes," and the like, make us almost hope for something like an atom bomb to fall and prevent this horrible disaster from destroying us.

Those who are screaming now about what will happen when the "hordes" descend upon the campuses must have forgotten that this same pattern has been with us for 60 years. College enrollments doubled in the first 25 years of this century, they doubled again in the next 15 years, and again in the next 15.

This growth and flexibility of our system of education is one of its strengths. We have been finding answers all these years and there is no reason to believe that we will not find them in the years to come.

Who Should Go to College?

All writers on this subject agree on two things: college enrollments and costs will more than double in the next ten or fifteen years. To some writers this immediately suggests that not everyone that wants to will get to college, which poses the philosophical questions, "Who should go to college?"

Some of the critics of higher education believe that college should solely provide intellectual experiences, while others think college should exist chiefly to train for jobs. As it stands now, the American college does a little of both, giving "practical" courses in some areas, while also providing courses for the "man of learning."

The former group considers college the place for bright young people to widen their horizons and free themselves from the limitations of ignorance, prejudice and provin

The latter group a[illegible] that this position appears to be rather unrealistic in view of today's trends. Several generations ago most men going to college were preparing themselves for the professions (medicine, law, theology, science and teaching).

Today less than half are found in these categories, with such "service industries" as advertising, public relations, hotel management, and the like receiving the largest increases. In other words, more and more college graduates are now competing for the jobs at one time taken only by non-college men; jobs which certainly do not come under the guise of intellectual pursuits.

Is A College Education A Privilege?

Nevertheless, many of the critics in this field insist that a college education is not designed for everybody; that for many it is a waste of time; for others, a

period of frustrations. They hold that too often "going to college" is more important than getting a college education; that the bachelor's degree is a sort of good conduct medal which will open doors that would not otherwise be open to them. They maintain that the desire for social position or the desire to make money are not good reasons for going to college.

These writers consider a college education a privilege and often refer to the European system as one we should imitate. They fear that in a few decades the colleges will be so crowded and the costs of education so high that large percentages of the very able will find it impossible to attend.

The concern for the able student is not that he is personally missing a college education, but that in its struggle for survival, our country needs the talents of the highly gifted, especially those in the "genius class."

Fortunately, in spite of many headlines to the contrary, of those who might be labeled geniuses, almost all of them go to college.

Is A College Education A Right?

However, as the complexion and complexity of our society change and we fill the colleges with the top 25% of our youth, what will happen to the other 75%? Are they not also entitled to a college education?

If we hold (as we do) that each individual has a *right* to pursue education to the full extent of his capabilities, then it follows that for many this right does not end with grade eight or twelve, but is valid for life.

It does not seem possible or desirable that our nation will reverse its philosophy and return the skilled trades, the semi-skilled occupations, and the service occupations to the level of the trade school and apprenticeship. The trend is rather that even among the unskilled laboring group we will be finding more and more people pursuing an education beyond grade twelve.

If college education is a "right," then there follow certain inescapable responsibilities and challenges. First, we must train all of our manpower to its highest potential, not just the top 25%.

We need not only the expansion of the present programs for higher education, with additional buildings, budgets and staff. Our emphasis must be on courses and programs which will meet the needs of *all* students.

To keep these people in school just because of some vague feeling that "going to college" is important is not enough; "more of the same" cannot be the answer for large percentages of them.

What should the programs consist of? The study of this question could be the great debate of the next decade. It may be that the educational philosophy which produced such sweeping changes in the secondary schools in the first decades of this century will invade and completely dominate the undergraduate program of the college by the end of the century.

The present trend is that the program of the comprehensive high school will have its counterpart in the first two years of college by that time. This is already true in most community and junior colleges. This makes necessary the redefinition of the purposes of higher education and a re-examination of curricular offerings.

The Position of the Junior College

The past practices of many colleges were intolerable in that they accepted almost everyone and then set up academic barriers which forced large percentages of them to drop out very soon after. This is not only wasteful and makes for bad public relations, but it is basically dishonest and frequently has disastrous psychological effects upon the students involved.

More and more writers are emphasizing the important position that the community and junior colleges will have in the next decade in helping to solve this serious dilemma.

Since this type of school is relatively new on the college scene, it still lacks academic traditions; it can still be reshaped to meet current needs. A look at the junior college picture shows that the tendency is for all academic levels to enroll, and this characterization will take on increasing importance in the next decade as the tidal wave of students hits college campuses.

As a summary we note that the local junior college costs little to attend, admits most high school graduates and adults, and emphasizes guidance and counseling. It has a comprehensive program including education programs of an occupational nature (terminal), transfer programs, and adult educational programs.

Other recognized functions include community services and special remedial classes. Statistics show that the transfer student does well in the senior college. This fact offsets the criticism that the junior college is a "glorious high school" or "nothing but a trade school."

Probably the strongest arguments that can now be raised for the junior college is that its low cost and proximity are getting many people into college who would not otherwise be there. Its expansion will provide room for many of the additional students in the next decades.

What Will It Cost?

The question of finance is a big one in determining who will go to college. The big argument here is who should pay the skyrocketing costs of higher education, the student or the nation.

One group says that the student should pay the increased cost. Any other business that the young man wishes to get into will cost a great deal of money, and in many cases the return will not be nearly as great as it will be in the case of the college graduate. Then why should others pay for the investment which the college man is making in his future?

Even now he is paying less than half of the real costs in a private school and only about 20% in a state school. The solution, says this group, is for colleges to jack up fees and at the same time boost aid for those who need it, or make arrangements for long-term credit for schooling as it is done for other things.

The other group says that the nation must pay the bill, since it desperately needs college-trained people and should bear its share of the burden. The government is investing huge sums of money in foreign aid, irrigation projects, dams, etc., so why shouldn't it do the same for its most valuable resource, its college-trained manpower?

The outcome is simple to predict: both student and government (federal and state) will pay more in the future, for there is no doubt in the minds of

most educators that America must invest more of its substance in the higher education of its youth.

Predictions are made that in a decade the cost of a four-year college education will zoom to $15,000 or more. Large segments of our population simply can not raise that kind of money, especially in families where several are attending college at the same time.

Savings, part-time work, loans, and installments all will be needed, and more.

More federal and state loan programs, as well as college revolving loan funds, are fast becoming as much standard procedure as a gasoline credit card.

Huge amounts of money are being poured into scholarships by industry, individuals, and other groups.

While there are many reasons why students do not go to college, examination of the facts shows definitely that the lack of funds for the student with ability and initiative is not one of them.

The College Scene in 1975

By 1975 we will find ever-increasing segments of the population attending free community colleges with their ever-widening programs and services.

The state colleges, including most teachers colleges, will have become what may be thought of as "comprehensive colleges." College crowding will be aggravated not only by the population boom but by the fact that some programs of studies such as teacher training will require additional training.

The expansion of these colleges and such as are now operating at less than optimum enrollments will be doing much to take up the slack.

The universities will have become more and more selective so that only those students will be attending the first two years there who may be classified as "graduate material." They will concentrate more and more on graduate work, tending to become more and more like their European counterparts, but with this big difference, that transfers from one type of school to the other will be on a more democratic basis than is the case in Europe.

The study of American education of the past century is an interesting and amazing one. The men of that era were faced with almost insurmountable physical problems, such as the erection of thousands and thousands of buildings on all academic levels. But these problems were minor in comparison to the philosophical problems that needed solving. It must have been exciting to have been a part of this great venture, but no more so than to be a part of what is coming in the next decades in the field of higher education. Let us meet the challenge, not with wringing of hands and cries of doom, but with a missionary zeal and with a spirit of urgency.

If we believe ours to be the best system of education, we had better prove it in the next decade, or we may find ourselves in a world in which the freedom to debate and experiment has been taken from the people and placed into the hands of a chosen few.

Individualized Reading

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ONE of the most promising developments in education today is the trend toward accepting the learner where he is and helping him take his next step. If educational workers sincerely believe in this point of view, some dynamic changes will occur in the general classroom climate.

The teacher may be relieved of many cumbersome and involved organizational patterns of grouping. There will be a tendency to remove the ceiling from learning. Shackles which chain students to a dead level of mediocrity in achievement can be avoided. The teacher's point of emphasis may change from attempting to bring all children "up to grade level" (which is really a leveling process) to that of helping each child to extend himself as far and as fast as he can go. The program of instruction will be released from unrealistic lock-step compartmentalized grade standards.

Is it possible to provide for the developmental aspects of the reading program in a situation where each child is working at his own growing edges and acquiring the reading skills for which he is ready? Few authorities will deny that learning to read is an individual process. A large majority will agree that, within each person, considerable differentiation exists in achieving adequate reading skills-development. There is further general agreement that there will be a broad range of aptitude in reading within a given classroom and that the older the group of children, the wider the range will be.

If it is agreed that learning to read is a matter related to the uniqueness of the individual, then we should carry out a program of reading which accommodates individualization. This is not to deny that for some purposes larger group procedures are a definite part of the total reading program. Individualized reading does not displace group reading; it does not imply that the child learns nothing in group reading experiences.

The objectives of individualized reading instruction are the same as those for any good reading program. Learning to read should result in the individual making the best use of his ability in the skills of comprehension and rate to draw meaning from the printed and written page.

What takes place in the classroom in which the teacher uses individualized reading techniques?

Organization

The teacher has organized the classroom work and activities so he can move about the room to assist individual students and evaluate their progress in reading. The room may be arranged so that several work centers exist for "quiet-time" activities. These work centers may

include a place for science study and activities; a reading corner for recreational or work-type reading; an art work center; a music listening and appreciation center; a language arts work center; a social studies work center; and another area in which a reading group works on skills-development needs with the teacher. It is with this latter group that the teacher is able to give individual help in reading.

Students have an opportunity to work in each area several times during the week. Materials, books, and equipment provided in the work centers should be multi-level in nature in order to appeal to students of varying abilities. These materials should not remain static but should be changed periodically and sometimes daily, depending on the nature of the work to be accomplished.

Assessment of Needs and Levels

The teacher's first responsibility in instituting an individualized reading program is to use a variety of means and techniques to assess the reading level of each child and to diagnose each child's individual skill development needs. Commonly used techniques and instruments are formal reading tests and informal teacher-made tests as well as observing and listening to children read.

At this point, a teacher will begin to establish an individual reading record for each child. This record will include information about the child's performance and needs in reading skills such as comprehension, word organization, contextual clues, configuration clues, phonetic analysis, structural analysis, vocabulary building, location skills, and organization. Individual reading records may also include significant data about the child's informational and recreational reading.

The following checklist of skill areas may be used to guide the teacher in evaluation and planning of the instructional program in reading. It might serve as a guide to the teacher in planning for individuals and groups. It should be noted that this is an abbreviated form which can be expanded to include a greater degree of detail as a need exists to identify more specific measures of a skill.

FORM I
Grade ..... —— Reading
READING SKILLS
- Comprehension Skills
  - Finds the main idea; follows directions
  - Recognizes cause and effect
  - Paraphrases stories or parts of stories
  - Rereads to recall ideas or facts
- Word Recognition Skills
  - Picture clues
  - Uses pictures as an aid in recognizing new words
- Contextual Clues
  - Uses the context of a sentence or phrase as an aid in recognizing new or unfamiliar words
- Configuration Clues
  - Observes the configuration of the total shape of the word
- Phonetic Analysis
  - Pronounces words by sound units as an aid to word recognition
- Structural Analysis
  - Identifies the parts of a word that make up the meaning unit or or pronunciation unit
- Vocabulary Building Skills
  - Becomes aware of words which have the same meaning and

words which have the opposite meaning
Becomes aware of words that sound alike but have different meanings
Location Skills
Uses table of contents, index, word books, picture dictionary, lists, class files, maps, and globes
Recognizes and locates paragraphs
Organizational Skills
Recalls events of story in proper order
Selects the main idea
Begins simple outlining with the teacher
Informational Reading
Reads to find information, solve problems, or verify a point
Selects suitable reading materials according to the purpose of the reading
Reads reference material to pursue individual interests
Recreational Reading
Reads to get or give enjoyment
Becomes acquainted with our literary heritage and appreciates the finest in prose and poetry

The teacher also keeps a record of the kind and number of books read by each student. If she wishes, she can include in this record the time required by the student to read the books and any comments he or she might have to make about it. The teacher is able to review this record periodically for the purpose of guiding book selection on a more balanced interest basis. Such a record will assist the teacher in helping the child and the parent to review the type and quality of reading material experienced by the student.

A teacher should be cautioned at this point to develop as simple a record-keeping system as possible. If over-emphasis is placed upon involved reading records which are difficult to maintain on a continuous basis, the result could be a reduction in the amount of time the teacher is able to devote to practical, timely assistance to children.

Texts and Related Materials

Children in an individualized reading program may use a basic series of reading texts as a means of giving sequential development to the reading skills. However, it is not necessary for all children to work in the same level text at the same time. The selection of a text should be based on the student's general maturity level, which includes ability and interest.

For certain types of reading, self-selection by individual students is appropriate. However, for developmental reading purposes, it is recommended that the teacher utilize a carefully planned and outlined sequence of reading skills to be achieved.

The assumption is made at this time that the teacher has had a thorough background in successful techniques

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and practices for teaching developmental reading. Without this background it would appear impracticable for a teacher to attempt the program being suggested.

To augment the basic reading series approach for developing reading skills, many teachers have utilized multi-level materials such as the S.R.A. (Science Research Associates) individual reading kits and the Scholastic Reading Kits on Values. Some teachers have developed their own individualized reading kits to supplement the basic reading series.

Group Reading Experiences

Some grouping takes place, even in an individualized program. For example, a generally good reader might be having trouble with such a skill as scanning, along with his less able classmates who might be experiencing similar difficulties. When common needs or common problems exist, it is possible and appropriate to group for specific skill-development. There are many reasons for establishing groups, such as helping in phonics, structural analysis, dramatics, choral speaking, and in book selection.

Reporting and Orientation

It will be essential for teachers to report to parents on the progress of the students so that the home as well as the school may know where the child is in his reading progress, how well he is achieving, and what the next steps will be.

In some communities, an individualized reading program will be considered an innovation. Before embarking upon the program, parents should be carefully oriented to the objectives and purposes of this pattern of instruction.

Summary

In summary, the individualized reading program requires:

1. A point of view and attitude on the part of the teacher which holds that children's needs and interests should be identified; that learning is an individual matter; and that each child should be helped to take his unique next step in learning.
2. A classroom organization established to facilitate the teacher's work with individual students.
3. Adequate diagnostic records and progress reports for each child in the classroom.
4. A multi-text and multi-level selection of reading materials.
5. A specific and meaningful program of reporting pupils progress to parents.
6. A carefully planned program of parent orientation.

Whatever you teach, be brief, that your readers' minds may readily comprehend and faithfully retain your words. Everything superfluous slips from the full heart.

—Horace, *Ars Poetica*

Leaders in Education XXXVIII

ALF JOHNSON MAPP

ALF J. MAPP, superintendent of the Portsmouth, Virginia, Public Schools, might never have attained his present position if he had not overslept once. In the summer of 1919, Mapp was working on one of the Chesapeake ferries of the Pennsylvania Railroad. One night he fell asleep and awoke to find himself in the Norfolk area.

Having nothing to do all day, he called on the Norfolk County superintendent and was offered the principalship of Churchland High School. He accepted the job and has remained within five miles of that first school throughout the rest of his career.

Mapp was born October 10, 1897, in Northampton County, Virginia. He attended the College of William and Mary, where he finished in 1918.

He entered the Portsmouth Public Schools in 1926 as principal of Port Norfolk and Pinners Point schools. In 1941 he became assistant principal of Woodrow Wilson High School, and in 1950 was elected Superintendent of Public Schools.

Throughout these years Mapp has engaged in many related educational activities. He held office in the National Vocational Guidance Association, was a member of the Hampton Roads-Peninsula War Studies Committee, and was largely instrumental in the establishment of the St. Helena Division of the College of William and Mary.

As Superintendent of Schools, he has directed a $14,000,000 building program. Of equal importance have been his efforts to improve instruction through the upgrading of elementary principals, the establishment of elementary-junior high summer schools, introduction of the 6-2-4 plan, and establishment of guidance and counseling services throughout the city schools.

In 1959 he received on behalf of the Portsmouth Public Schools the Betts Reading Clinic award in recognition of outstanding service and achievement in the improvement of reading.

Married to the former Lorraine Carney, Mapp has one son, Alf J. Mapp, Jr., and a grandson, Alf J. Mapp III.

WHAT SCHOOLS ARE DOING

Creative Teaching

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"Originality provokes originality."
—Goethe

THE quotation above sets the stage for this column, for children who are creative in their learning are likely to be found in the classrooms of the innovative teacher. And we may well reflect on the advice of Anatole France that, "The whole art of teaching is only the art of awakening the natural curiosity of young minds for the purpose of satisfying it afterwards." Fortunately, an increasing number of teachers in American school are becoming alert to the rich possibilities for pupil growth that are inherent in creative teaching.

Creative teaching starts with creative thinking. Thus, the creative teacher budgets time for reflection—discovering ideas which suggest better ways of individualizing instruction, of discovering children's interests and aspirations, of improvising teaching materials, of approaching teaching problems in novel or distinctive ways, of planning better means for utilizing human resources. Most important, the creative teacher actively plans for self-enrichment, for she knows that healthy, vigorous teaching can never spring from an impoverished soil.

Creativity in teaching rejects the stereotype and blind routine—it means, instead, the moving into experimentation, inventive procedures, and fresh classroom adventures. Possibly the most important key to creative teaching is in answering the question, "How can my instruction set up learning experiences adapted to the best growth of the individual pupil?" This is well illustrated by the thoughtful second grade teacher who on her daily schedule listed a *Teacher's Evaluation Period* for fifteen minutes after school dismissal. Describing this period she wrote, "This is the time to take a few minutes to face the empty seats and think about the occupant of each. With notebook in hand, jot down the special problems that some of the children need to solve on the morrow."

In creative teaching there is novelty, versatility, and anticipation. This does not imply, however, that original ways of doing things are just for the sake of being different.

Creative teaching senses the *teachable moment*—when the child is poised and ready to attack a problem with genuine interest and personal concern—when he has an inner compulsion to explore, to find out, to act. Certainly this principle calls for reasonable flexibility in the day's routine.

Creative teaching is often the mere

dropping of a hint or the making of a timely observation. For instance, "Mary, I think that idea of yours might work into a very interesting poem" could be just the hint needed to create an inner desire to write a poem. Or, "George, that was a fine catch you made at recess today" is a timely observation that may create in the boy a greater feeling of self-assurance.

It will be noted, too, that creative teachers reflect an inner pleasure whenever pupils reveal inventive imagination in their writings, their art work, the production of original music, the discriminating use of words in oral presentations, the cartooning of key concepts in social studies, the invention of challenging games in arithmetic, or the adaptation of a physical education activities into a modified pattern.

In summary, it may well be said that children who have a creative teacher are fortunate, indeed. And they are fortunate in two major ways. In terms of immediacy, their school life will certainly be more productive, meaningful, and challenging. Even more important, the years which lie ahead of them will be filled with the rich personal satisfactions which come to the creative type of person. In turn, their contributions to mankind will be large, because their creative talents have been unleashed.

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What all men are really after is some form, or perhaps only some formula, of peace.

—Joseph Conrad, *Under Western Eyes*

VIEWPOINTS

What Is A Revolution?

EARL H. HANSON
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A REVOLUTION is a thrust to bring about great change in a short time. Sometimes it's social, sometimes economic, sometimes personal, and sometimes all three. Obviously, revolutions are needed when conditions are unjust, deplorable, and unnecessary but are so solidly entrenched that only a revolution can change them.

Always, however, people should keep a wary eye on these upheavals, particularly if the drive is largely personal. If the attempt is basically a move by somebody to seize power and his excuse is lodged in economics, or social conditions, or some theory of education, so that the expressed causes are chiefly bait, it's time for the people to watch out and not get "suckered" in.

There is in America a threatened revolution in education. It should be analyzed. Is it true that the schools have gone so soft that education must be made harder for boys and girls?

The great *Saturday Evening Post* feature by Hill and Gallup, December, 1960, which compared American and European education, said that while our systems differ and we can learn from each other, still the American system shows up very well.

Since ours is based on the idea that every child must be helped to develop all his good powers, some feel that competition is being downgraded. Is it possible that the drive for school change is in part a desire of a few gifted to define success entirely in terms of beating the other fellow? In other words, is it a shoving match at the top where a few are trying to push others off so that their satisfactions of being on top are enhanced by a sort of glorious loneliness?

Actually, of course, it is true that while "all men are created equal"—that is, equal before the Lord and the law—and that consequently each must have an opportunity to make the most of himself, still we are not all equally strong, equally healthy, or equally inventive. To many this seems a justification to go about beating people instead of a challenge to become their own best selves.

As I suggested in "What Is Success?", the schools must be attentive to both kinds—success in competition and success in fulfillment. I wonder if a part of the steam behind the present "revolution in education" is a desire to crowd out "success in fulfillment" and make supreme "success in competition."

If that's true and the masses of people find it out, as they inevitably will, what will be their reaction? Can such a revolution be successful since it is obviously against the interests of the overwhelming majority of the people?

BOOK REVIEWS

WILLIAM P. SEARS, Jr., Book Review Editor
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Washington Square, New York City

NEW HORIZONS IN EDUCATION. Edited by George Gardner and Stanley Washburn, Jr. Rand McNally. 1961. $1.95.

Guidance counselors, deans of men and women, and special advisers in colleges and universities will want to have this reference book in their desks. The book is a directory of institutions of learning beyond continental United States. Admission requirements, requirements to enter the countries, programs, tuition and other costs, living costs, common courtesies and local customs, and even how to get to these institutions are tersely set forth. The size of the institutions, their calendars, and the language of instruction are also given. Introductory material is presented by Senator Fulbright, James B. Conant, and Thomas C. Mendenhall. Any student desiring to study abroad will find this the book to consult.—W. P. S.

HIGH TIMBER: THE STORY OF AMERICAN FORESTRY. By Charles I. Coombs. Cleveland. World Publishing Company. 1960. $4.95.

Although this book has been designed for youngsters of twelve years of age and up, it will appeal to all who have an interest in our forests and their great natural riches. Teachers of the industrial arts and of the social sciences will find the book an excellent one for collateral reading. The author explains clearly and accurately the ways in which the modern profession of forestry sets about making the wisest possible use of trees. Tree structure, the differences between hard and soft woods, the importance of trees in the conservation of water, soil and wildlife are but a few of the topics covered. Some excellent photographs add to the value of the book.—W. P. S.

CHARGE! THE STORY OF THE BATTLE OF SAN JUAN HILL. By A. C. M. Azoy. N. Y. Longmans. 1961. $3.95.

The Spanish-American War is probably the least studied and the least understood of all the wars in which the United States has engaged. Although this book focuses on the famous battle of San Juan Hill, the author gives a splendid picture of the events leading up to the war and of the preparations made for the Cuban landing. Here is the familiar story of confusion, mistakes, and poor planning. The story of the landing and of the battle are magnificently written. Colonel Azoy writes with an ease and a color that will delight the reader. He devotes much space to personalities.—W. P. S.

EDUCATIONAL PSYCHOLOGY. By Arden N. Frandsen. N. Y. McGraw-Hill. 1961. $7.50.

The principles of learning and their application in effective teaching are presented for teachers in both elementary and secondary schools in this basic and very comprehensive text. Generous use of pertinent classroom illustrations adds to the fundamental theory explained by the author. Part 1 gives an overview of what children learn in a modern school and how they learn it. Part 2 looks closely at the children and at individual differences. Part 3 deals directly with the dynamic processes of learning-motivation, structuring approaches to problems, the trial and check process in learning, efficient mastery of concepts and skills and sustained retention. Part 4 considers the teacher's role in fostering healthy emotional and social development. Part 5 presents the general principles of measurement and a variety of procedures for appraising the attainment of academic objectives.—W. P. S.

LABOR IN THE UNITED STATES. By Sanford Cohen. Columbus, Ohio. Charles E. Merrill Books. 1960.

The purpose of this book is to start the student or the general reader on the road to knowledge and understanding of labor issues in the United States. The volume will serve most adequately as a text for college courses in labor problems and labor legislation. It is unnecessary at this point to stress the importance of the role that organized labor now plays in our economic, political and social life. That our citizens should be aware of the labor issues and problems of the day and their roots in the past is also generally recognized. Professor Cohen, of Butler University, has organized the material of his book objectively, cogently, and succinctly. There are seven major sections and each section is comprised of several chapters. Part One deals with the labor force in the United States, Part Two is concerned with organized labor in the United States, while Part Four considers the whole arena of collective bargaining. The remaining parts deal with wage analysis, labor law, the problems of economic insecurity, and the place of organized labor in contemporary American society. There are questions at the end of each chapter and brief lists of appropriate collateral readings.—W. P. S.

A HISTORY OF WESTERN TECHNOLOGY. By Frederich Klemm. New York, N. Y. Scribners. 1959. $6.50.

The story of western technology from Greco-Roman times to the present is told in this interesting book. The text relies largely on the writings of contemporary scientists and engineers. The author is careful to bring out the circumstances which at the different times led technical development in one direction rather than another. Teachers and students in engineering colleges, technical institutes, and in the science and mathematics departments of high schools will find the book informative and interesting.—W. P. S.

THE WAR BETWEEN THE STATES. By Eric Wollencott Barnes. Illustrated by W. N. Wilson. New York, N. Y. Whittlesey House. 1959. $3.50.

Of books about the war of 1861-1865, there appears to be no end. The present volume, designed primarily for teen-age readers, presents the story of this unfortunate conflict in a colorful but objective fashion. Opening with a brief review of the causes of the war, Dr. Barnes proceeds to the early battles, then to the war on the water, the middle years, the tragic slaughter of Gettysburg, Grant's strategy at Vicksburg, and the concluding days of the war. While the book presents no new information about the War between the States, it does provide the teen-age student with a useful and reliable narrative of the war's principal events.—W. P. S.

THE ROMANCE OF CHEMISTRY. By Keith Gordon Irwin. Illusrated by Anthony Ravielli. New York, N. Y. Viking Press. 1959. $3.75.

Young people preparing for careers in chemistry, as well as their teachers and parents, will find this book both entertaining and informative. The story begins in the land of Egypt four thousand years ago when man's chemical understanding was limited. It ends with the present day when chemistry is so basic to our contemporary technological society. Throughout the pages, there are portraits of the great chemists—of Joseph Priestley, Robert Boyle, Marie Curie, and a host of others. Chemical principles, chemical practices, and chemical experiments that have greatly affected life on earth are all treated by the author in a vivid manner that conveys to the young reader both the significance and the excitement of chemistry.—W. P. S.

ART FOR THE PRIMARY GRADES. By Dorothy S. McIlvain. New York: G. P. Putnam's Sons. 1961. $7.75.

Dorothy McIlvain, Director of Art in the Spokane Public Schools, has written this comprehensive guide to art instruction from kindergarten through the primary grades. The author's long experience in her field is shown by her practical approach. The book begins where it should—with an understanding of the child and his physical, mental, emotional, and social characteristics. The bearing which these characteristics has on motivation in creative self-expression is pointed out. The major part of the book is concerned with ideas, materials, and processes for projects for the classroom.—W. P. S.

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